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THE EFFECTS OF CHANGE IN THE PHYSICAL ENVIRONMENT UPON ELDERLY PATIENTS DURING AND FOLLOWING AN INSTITUTIONAL RELOCATION

by

Gail Lynn Hartwigsen

A DISSERTATION

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ABSTRACT

THE EFFECTS OF CHANGE IN THE PHYSICAL
ENVIRONMENT UPON ELDERLY PATIENTS
DURING AND FOLLOWING AN
INSTITUTIONAL RELOCATION

By

Gail Lynn Hartwigsen

In a society where the numbers of older citizens continue to increase, attention must be focused upon environments that will support their physical and emotional needs. This becomes especially critical in institutional settings where people are separated from the familiarity so essential to their well-being. Relocation of the institutionalized elderly is thought by some to be characterized by higher than normal mortality rates, or "relocation trauma."

This exploratory study was undertaken to expose specific aspects of the physical environment that might affect patients either positively or negatively during and following an institutional relocation, with the data ultimately intended to be used as input for the design of facilities for the elderly who require regular, daily medical care.

The nature of study of the elderly and of the environment in general necessitates that many factors be investigated. The instruments reflect this complexity. The Mental Status Questionnaire (MSQ) was used to determine patient alertness to orientation in time, place,

and person. The Activities of Daily Living Scale (ADL) measures the sociobiological behavior of the patient in six basic functions: bathing, dressing, toileting, transfer, continence, and feeding. The Physical Environmental Checklist (PEC) is designed to measure objective characteristics of the immediate physical environment along with obtaining the patients' subjective rating of satisfaction with the seventeen physical environmental aspects in question. The "before and "after" physical environments provided extreme contrasts for the patients, and, since this change was accompanied by little social change, this study has treated the entire relocation experience as a physical environmental change only.

Questions guiding the research were organized to crosstabulate the independent variables of mental status, physical health, amount and type of physical environmental control exerted, and amount and type of physical environmental changes perceived by the patient with the dependent variables of nonsurvival, survival, and satisfaction following the move. Six specific questions guided the research:

1. Are patients who are more mentally alert, as measured by the Mental Status Questionnaire, more likely to survive relocation than those who are shown to be less alert?

2. Are the more mentally alert patients, as measured by the Mental Status Questionnaire, more likely to be satisfied with their new environments?

3. Do patients who exert control (option of choice) over their new environments prior to relocation survive relocation better than those who do not?

4. Are patients who exert control (option of choice) over their new environments prior to relocation likely to be more satisfied following relocation?

5. Do the number of physical environmental changes, as perceived by the patient during an institutional

relocation contribute to the elderly institutionalized patients' mortality, morbidity, or satisfaction?

6. Are there some types of physical environmental changes that are perceived by the patient during an institutional relocation that will contribute more to the elderly patients' mortality, morbidity, or satisfaction?

Thirty-seven patients were each interviewed three specific times during the study. The findings as suggested by the data were:

1. Patients scoring higher on the MSQ reported a higher level of satisfaction with the physical environment following the relocation.

2. The survivors who exercised more control over their physical environments prior to the relocation reported a higher level of satisfaction following the relocation.

3. Women expressed satisfaction more often and exhibited greater independence than the men. From these responses, it was believed that the women responded more positively to the relocation than did the men.

4. The patients gave more positive ratings to all but one aspect of the new physical environment in question.

Generally, it can be concluded that the relocation was a positive experience. Overall mortality rates for the year preceding the relocation did not differ, and the patients indicated increased satisfaction with the new structure.

ACKNOWLEDGMENTS

I would like to thank Dr. Gertrude Nygren for her friendship, leadership, and unfailing objectivity throughout this venture. I hope that I will be able to repay her for her efforts by guiding someone else through a project of similar scope in the future.

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I would like to thank the patients at the Ingham County Medical Care Facility for their cooperation, and particularly thank Mr. Louis Crowe for his friendship and insight during the project. Mrs. Barbara Thorburn, Ingham County Medical Care Facility Administrator, and Mrs. Carol Kennedy, ICMCF Social Worker, also deserve a great deal of thanks for their cooperation, time, and

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CHAPTER I

INTRODUCTION

Although a substantial amount of study has dealt with the effects of relocation upon elderly individuals, results have been diverse. Attempts to learn if environmental changes contribute to the survival or nonsurvival of the relocatees have not been conclusive, but literature has suggested a number of factors as being worthy of study.

The effects of inter-institutional moves on the involved patients appear to indicate that predictable and controllable environments are associated with relatively less physical and psychological deterioration. Interinstitutional moves, however, vary widely in the numbers and degrees of changes an elderly patient is forced to undergo. The identification of specific factors that prove significant to relocated patients, either in the positive or negative sense, is critical.

Pablo (1977) found that in an institutional move where the physical and social environments underwent little change, the relocation was successful because the similarity of the "before" and "after" environments helped reduce the trauma associated with change among elderly patients.

Schultz and Brenner (1977) and Pastalan and Bourestom (1975) found that pre-relocation preparation program participation increased the predictability of the new environment and effectively reduced mortality rates. Providing patients the opportunity to choose certain

aspects of their changed environment, in part through site visitation, is believed to improve the patients' survival rate.

There is support for the idea that the design of the physical environment should be considered as an intrinsic goal in its own right regardless of whether other measures of psychological and social functioning are improved. In non-institutional relocations, Lawton and Cohen learned that a relative decline in physical health was associated with new housing, but that the "relative improvement (or lesser decline) in other criteria despite the decline in health . . . points to a buffering effect of the housing environments in keeping tenants' psychological status buoyed up" (1974, p. 204).

Relocation has been conceptualized by Markus et al (1972), as having two separate stages requiring adjustment: 1) a deprivation of familiar cues and environmental supports, followed by, 2) the necessity to cope with a new set of stimuli in the unfamiliar, new environment. They also feel that field approach and mental status are both implied in the adjustment to a new environment. They contend that field-dependent perceivers will suffer from initial deprivation, lacking the ability to "impose structure upon the unfamiliar environment" (1972, p. 377). They also feel that those with low mental status would have difficulty in coping with the new stimuli.

Lieberman (1969) feels that specific, detailed information about the disruptiveness of the environmental change could be instrumental in the development of procedures to lessen the discontinuities in the environment along with the negative effects of institutionalization. Few studies have been ecological in nature, considering the interdependent relationship of the person/organism to his/her

physical environment. A primary purpose of this study is to learn if it is possible to identify environmental predictors affecting an individual's response to relocation. This study concerns itself with changes in the physical environment and the effects that these singular and cumulative changes can have upon institutionalized older people.

Problem Statement and Purpose of the Study

This exploratory study is concerned with the identification of factors that positively or negatively affect elderly patients during and following an institutional relocation. Factors that would shed light on the evolving definition of an "improved environment" for these people are demanding study more and more. Given the current feeling that health care facilities, such as the Ingham County Medical Care Facility, hereafter referred to as the ICMCF, should satisfy the residential as well as the health care needs of their inhabitants (Koncelik, 1976), information gathered directly from the patients regarding their satisfaction with the physical environment appears to be a necessity. In the past, research in this area has often acquired its information vicariously: through nurses, aides, doctors, social workers, administrators, and other sources, such as volunteers.

The primary purpose of this study is to learn whether or not changes in the actual physical environment affect the involved patients and, if so, if correlations can be made between specific characteristics of patients and particular changes that have taken place in the physical environment. In this respect, the factors that will be

investigated for comparative purposes are the number and type of physical environmental changes undergone as perceived by the patients, the patients' mental alertness, physical independence, and control exerted prior to relocation. These factors, when correlated with patient mortality, morbidity, and satisfaction, should provide insight into the residents' immediate and eventual relocation pattern within the physical environment.

It is felt that if findings in the area of institutional satisfaction were to be more conclusive than they have been, the amount of research and consideration directed toward the design of institutions for the elderly would increase.

Significance of the Study

Unconfirmed information on the effects of specific aspects of the physical environment upon elderly institutionalized patients exists. The relocation described in this study lends itself to this type of investigation, since a change in the structured physical environment occurred accompanied with a minimum of social change via personal contacts. Thus, it can be assumed that patient reactions, in terms of mortality, morbidity, and satisfaction with the new surroundings would be more likely to be attributable to the physical changes of the medical care facility than to any other circumstances.

An increased knowledge of physical environments that are supportive of human life and satisfaction, particularly in health care facilities, should help contribute to the design and construction of structures that will aide in the healing and caring processes associated with such facilities, not hinder it. It would appear that a more

satisfied patient would also feel more cooperative toward acute and chronic health care.

Knowledge gained from this study would also identify various patient characteristics that aided or deterred the successful relocation of the individuals. This information would be valuable to administrators of similar facilities when preparing patients for relocation.

Conceptual Framework

Inherent in the ecological theory is the reciprocal interaction between man and his environment. Existing as two separate systems, each receives input, is to some degree transformed, and produces output. This output, be it in the form of human behavior or a particular form of the physical environment, impacts upon the interacting system, as shown in Figure 1. This concept is an underlying one for this research, although the reciprocal process between man and his environment is not considered in this study. However, it is implied.

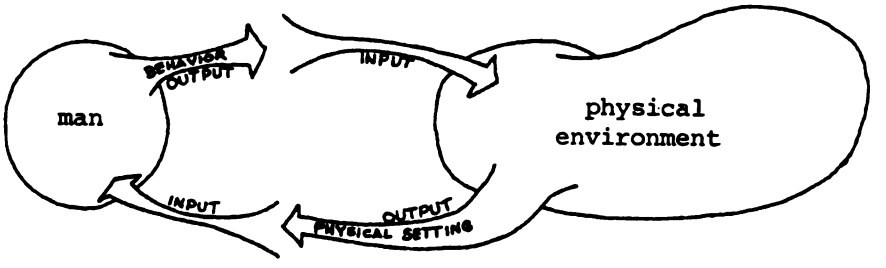

FIGURE 1.--Basic Interaction Between Man and the Physical Environment as Implied by the Ecological Theory.

Beacuse of this implication, this study has been conducted within an ecological framework. This framework was also implemented due to the variety of factors that were studied.

Indicators of patient nonsurvival, survival, and satisfaction

following an institutional relocation are sought, and two primary areas of investigation were perceived as being most influential in their determination: the immediate physical environment, and the patient him/herself.

Relocation can be a traumatic experience, especially for an institutionalized elderly person. It requires drawing upon inner resources of physical and mental health, and also upon individual personality: the way in which one handles potentially traumatic situations. An individual's ability to recognize, organize and utilize his or her own personal resources during an institutional relocation may spell the difference between nonsurvival, survival and satisfaction following the relocation.

The immediate physical environment is defined, for the purposes of this study, as the patient's own room and the personal possessions within that room. The extent to which the patient perceives his immediate environment as being a supportive unit and utilizes it as such can also influence his or her eventual relocation.

Aspects of the immediate physical environment that were tested for in this study consisted of seventeen specific architectural features or personal touches by the patient that describe the patients' rooms. These aspects are detailed in figure 2, where they are depicted as "filtering through," or impacting upon, the patient, from whence a relocation outcome (nonsurvival, survival, or satisfaction) will result (see figure 2).

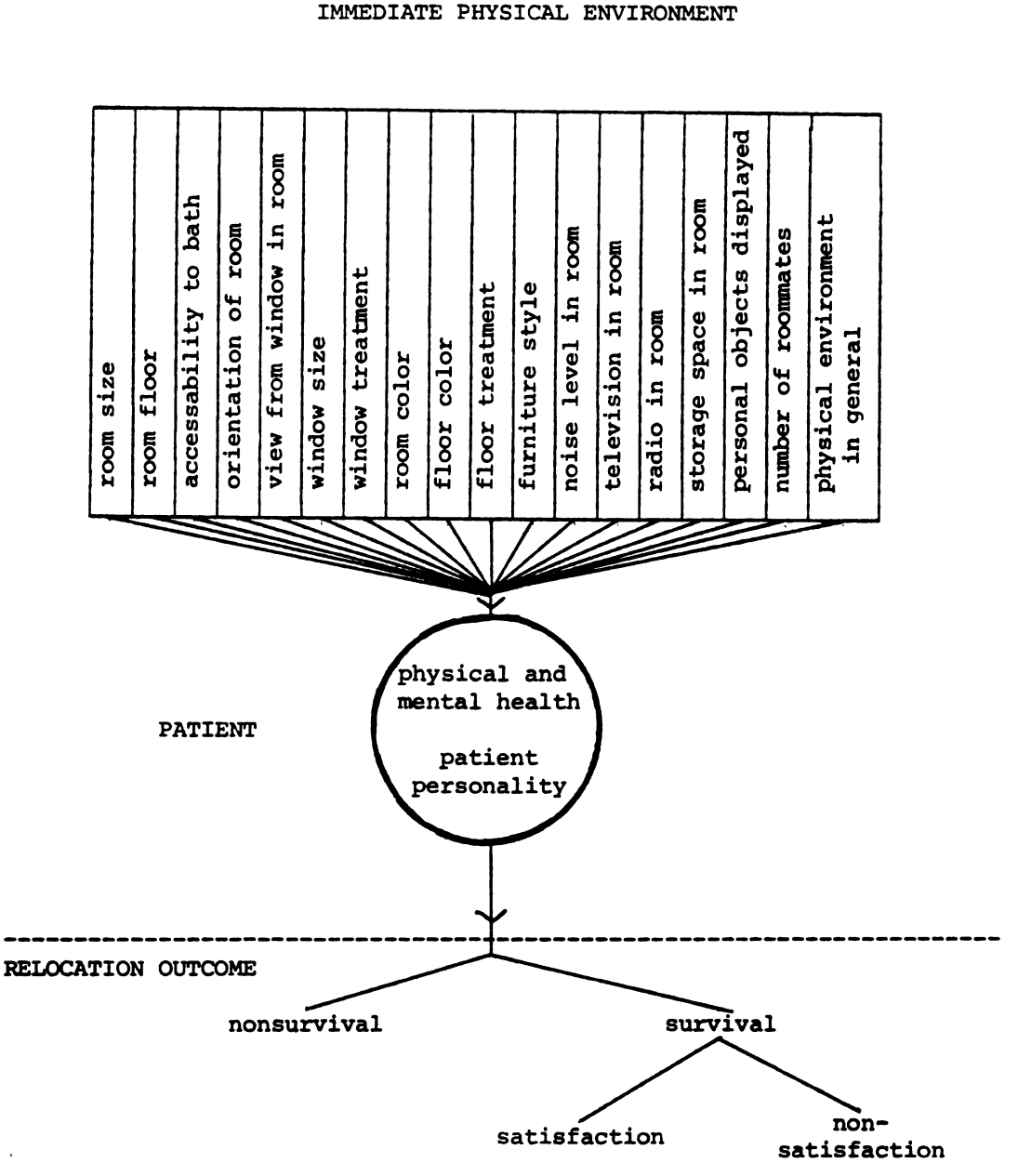

FIGURE 2.--Conceptualization of Physical Environmental and Patient Factors That Could Affect Institutional Relocation Outcome

Specific Objectives of the Study

The purpose of this study is to investigate the phenomena of relocation among elderly institutionalized patients. The ecological framework employed scrutinizes the physical environment and the personal resources of the involved individuals, explicitly striving to answer questions related to the amounts of physical environmental change tolerable to the subjects. Specifically stated, the objectives are as follows:

1. To determine whether any specific changes undergone by the patient during relocation affect him/her either positively or negatively.

2. To determine whether specific patient characteristics will be predictive of the patient's susceptibility to the trauma of institutional relocation.

"Personal resources" include the individual's mental alertness, physical independence, personality, and various demographic characteristics. Mortality rates will be measured against mortality figures at the same facility during the preceding year. Survivors will be analyzed according to their relative degree of adaptation to the new environment and how satisfied they are with the adaptation.

The concept of "satisfaction" is an important one. Mandatory preparation of patients prior to relocation has introduced the probability that fewer deaths can be expected following relocations than previously. Because patients may be living longer while in poorer health, rather than dying during relocation, increased attention must be given to the health care facility as a residence as opposed to strictly an acute physical health care establishment.

Questions that focus around the physical environment, mental alertness, and control as they relate to satisfaction guide the

research. They are:

1. Are patients who are more mentally alert, as measured by the Mental Status Questionnaire, more likely to survive relocation than those who are shown to be less alert?

2. Are the more mentally alert patients, as measured by the Mental Status Questionnaire, more likely to be satisfied with their new environments?

3. Do patients who exert control (option of choice) over their new environments prior to relocation survive relocation better than those who do not?

4. Are patients who exert control (option of choice) over their new environments prior to relocation likely to be more satisfied following relocation?

5. Is there an identifiable pattern in the number of changes in the physical environment that elderly institutionalized patients can experience before their mortality, morbidity, or satisfaction will be influenced?

6. Are there some types of physical environmental changes that are perceived by the patients during an institutional relocation that will contribute more to an elderly patient's mortality, morbidity, or satisfaction?

Assumptions

The following assumptions underlie this study:

1. All patients included in this study will have been provided with the same pre-relocation preparation program opportunities.

2. There will not be an appreciable decline in mental or physical status due to the natural process of aging during the period of this study.

Definitions

For the purposes of this study, the following operational definitions are used.

Control: The willingness of the patient to select among the options available for his/her room, roommate, and room color in the new ICMCF. Other undefined opportunities were also available for

patient input.

Dependence: Being unable to carry out all necessary daily activities in one's accustomed life, according to one's established standards.

Environmental Change: Any object or event that can stimulate or affect a patient during an institutional relocation, be it positive or negative.

Field Dependence: Reliance upon familiar supports in the physical environment. Individuals can be judged to be field dependent or field independent.

Independence: Being able to care for one's physical and social needs completely, including all activities concerned with nutrition, cleanliness, transportation, living environment, purchasing of goods, and other individually required daily activities.

Immediate Physical Environment: That part of the patient's immediate surroundings that are physically visible. It includes the patient's room and its actual architectural features, contents, and design elements.

Institution: A health care facility for those individuals who require skilled medical care.

Interviewable Patient: Those patients who can readily hear and respond to questioning.

Locus of Control: According to Reid, Haas and Hawkings, locus of control refers to the "extent to which a person sees his outcomes (events he experiences and reinforcements he perceives) as being contingent upon his own efforts and abilities (internal) or as being determined by chance, fate, or powerful others (external)" (1977,

p. 441).

Mental Status: A measurement, taken by the Mental Status Questionnaire, of the patient's alertness to current events.

Personal Control: The ability and permission to exert individual choice involving personal concerns.

Personality: The tendencies of the patient as revealed in the amount and type of control he/she assumes over his/her physical environment in the new ICMCF.

Satisfaction: An individual's perception of how the problem in question fulfills his or her needs. The notion of "happiness" is not necessarily implied.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Literature relevant to the relocation phenomenon that has been associated with elderly institutionalized patients is discussed in this chapter. Specifically, research in the fields of survival in relocation, effects of physical, psychological, and social change, locus of control (including patient satisfaction), and communication with the relocatee will be discussed.

Survival in Relocation

Brand and Smith have found that, "In general, older persons seem to gain satisfaction and support from association with familiar objects and places and from association with persons living in the same environment" (1974, p. 336). The relocation of the individual implies a disruption of this familiarity, thereby producing stress. Any type of environmental change can be harmful to the relocatee, and its source, whether pleasant or unpleasant, appears to be immaterial. Selye (1974) reports that it is the degree of change, or the demand for readjustment or adaptation, that will produce stress in the individual. Pastalan and Bourestom have found that "more radical environmental changes are associated with both higher mortality rates and with more negative changes in adjustment and life patterns. It would appear then that the sheer amount of forced change overloads the organism to

such an extent that negative consequences can be anticipated" (1975, p. 139).

Slobogin (1977) says that change has been termed the common denominator of stress since it is a threat to the methods people have developed to handle their dependency needs. In change, familiarity is always lost to some degree. A major theme that Dohrenwend (1974) found common to many stressful events is the ability of the individual to adapt to or to cope with the changes that have occurred. Successful dealings with stress seem to demand these behaviors.

Four characteristics of older, non-institutionalized people that have tended to indicate more successful relocations have been identified by Carp (1974), three of which can be associated with institutional relocation: 1) that the residents did not expect Utopia upon moving; 2) that the move had been voluntary; and 3) that the relocatees were in good mental and physical health. In addition, good adjustment to the new surroundings was favored by intelligence, good physical and mental health status, living with the spouse, good sociability, and good levels of activity, self-esteem, optimism, present income, and socio-economic status of earlier years.

Pablo asserts that the outcome potential of relocation "has consistently been associated with the following: degree of choice, degree of environmental change, degree of preparation, degree of health, or any combination of these factors" (1977, p. 426).

Markson and Cumming (1974) found that a relocation of elderly chronic patients does not seem to subject them to a higher risk of dying. Lawton and Yaffe (1969) found similar results in studying a relocation of healthy elderly people.

Pastalan and Bourestom (1975) note that female patients relocated less successfully than men. Women tended to personalize their spaces much more than men, and they also formed more social ties, thereby having much more to lose upon relocation. Because of their higher degree of identification with the immediate environment, women were judged more dependent upon it as well. However, in separate studies, Davis and Haueisen (1976) and Schwartz and Karp (1967) reported no significant difference in field dependence between elderly male and female subjects. Davis and Haueisen found that field dependent subjects generally tended to be less efficient learners than were their field independent cohorts.

In another study, Harel (1979) found that functional health and field dependence/independence played an important part in the survival of elderly non-institutionalized residents. He feels that the more functionally dependent and impaired individual is more risk-prone among older people.

Similar "before" and "after" physical environments, accommodations, staff, and occupational therapy or physiotherapy treatments are believed to be factors important to lessening inter-institutional relocation mortality rates. Rodstein, Savitsky, and Starkman (1976) found that the patients most susceptible to initial relocation difficulties are those who: 1) had a poor capacity for interpersonal relationships; 2) were socially isolated; 3) were either single or divorced; 4) had a dependent personality; 5) had severe chronic brain syndrome; 6) had a negative or ambivalent attitude toward admission; and 7) had often been referred for psychiatric evaluation.

Borup, Gallego, and Heffernan (1978) concluded that mortality

rates for institutional relocatees are a function of age rather than the influences of relocation.

Thus, some predictors clearly emerge, but among others there is a necessity to investigate further and more accurately delineate the causes and results of institutional relocation. The major factors involved are discussed next.

Effects of Physical, Social and Psychological Change

Institutional relocation seems to affect older, non-ambulatory patients most. It is felt to be most harmful for those at least seventy-eight years of age, while a mean age of eight to ten years elder than the survivors has been suggested as being particularly predictive of nonsurvival. However, Markus et al (1972) found no significant differences among patient age or sex in relocation. Pastalan and Bourestom (1975) found that over half of the patients aged at least seventy-eight years who experienced a "radical" change relocation died, compared to 28 percent of their control group counterparts.

Lawton and Yaffe concluded that the mortality rate is also thought to increase among patients with "moderate physical impairment, severe brain syndrome, and severe motor impairment" (1969, p. 824). There is suggestive evidence that physical illness affects an individual's psychological status and leads to maladjustment.

The relocation of physically or mentally ill patients is comparatively unsuccessful when compared to healthier cohorts. Wittels and Botwinick observed that healthy community residents who have been found to make voluntary moves benefitted, whereas the

"relocation of sick people requiring nursing home care, especially when the move is involuntary, is detrimental to longevity" (1974, p. 440). In general, relocated individuals can expect a change in health following the move: health has been shown to both improve and decline more often among relocatees when compared to control groups.

Lawton espouses the view of "environmental docility," that the more competent the individual, the less will be the "proportion of variance in behavior due to environmental factors" (1970, p. 40). He points out that the older person is more sensitive to change in his new environment because he is likely to have had some type of competence reduction, perhaps through illness or perceptual capability. His is an ecological theory of aging, in which two components of study, the individual and the explicit or the implicit physical environment, are always necessary, and three others, the personal, suprapersonal, and social environments, may be present. He feels that "limitations in health, cognitive skills, ego strength, status, social role performance, or degree of cultural evolution will tend to heighten the docility of the person in the face of environmental constraints and influences" (1970, p. 40).

Additionally, helpless and psychotic or near-psychotic patients have been noticed by Aldrich and Mendkoff (1963) to have the highest death rates during the first year following relocation. It appears that older patients and those who are unaware of events happening around them suffer most.

In contrast, Borup, Gallego, and Heffernan (1978) state that the non-interviewable (handicapped, in their terminology) did not have a higher probability of death during and following a relocation than

did interviewable (nonhandicapped) patients.

Markson and Cumming (1974) feel that mortality is concentrated predominately in the six months surrounding relocation. There is some evidence that the first month following relocation serves to weed out those who were poor relocation risks because of underlying physical illness, mental confusion, or dependence upon the familiar institutional environment. On the brighter side, they feel that a mass relocation of relatively physically healthy patients has no demonstrable effect on their chances for survival, and that it may in fact be positive.

The length of institutionalization seems to affect adjustment to relocation. Patients who have been hospitalized for a shorter period of time have been found to be more vulnerable to the effects of relocation, probably because of their recent move into the facility. Again, the amount of change is critical, according to Pastalan and Bourestom (1975). This may imply that in some cases the person's actual physical health may be precluded by other circumstances.

Carp has developed a model illustrating the direct and indirect determinants of a patient's health and longevity (see Figure 3).

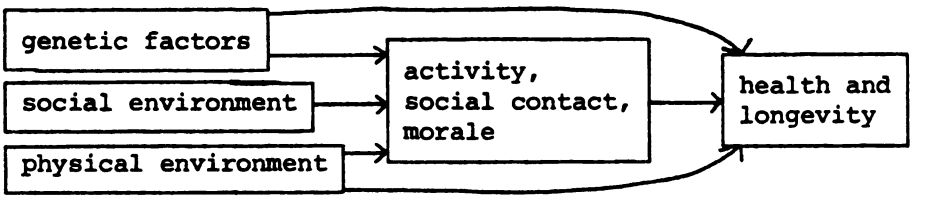

FIGURE 3.--Direct and Indirect Determinants of a Patient's Health and Longevity (Carp, 1977, p. 248)

This model implicates factors other than physical health that can influence longevity: it proposes an ecological approach to the

patient's care in an institution, something which has oftentimes been lacking in health care facilities, where acute care only is the norm.

Locus of Control and Assertiveness

Carp reports that "one indicator of an unresolved adjustment problem, lack or equilibrium, or stress is a feeling of being upset or unhappy" (1974, p. 445). Wolk and Kurtz (1975) have found that a correlation exists between adaptive behavior and the presence of high expectancy for personal control. Similarly, Palmore and Luikart (1972) found that beliefs in personal control are associated with greater life satisfaction. And, Reid, Haas, and Hawkings feel that ". . . losing personal control can lead to dysfunctional behaviour and emotional upset" (1977, p. 441).

Based on this literature review, it would appear that an individual's satisfaction with the environment and his/her eventual relocation outcome would depend, at least in part, upon his exertion of personal control regarding the environment. Thus, control, or the degree to which an individual attempts to exercise options of choice in the selection of a new environment, could be a powerful predictor of relocation success.

Wolk and Kurtz found that "a fairly substantial segment of locus of control research has verified a correlation between adaptive behaviors and the presence of high expectany for personal control" (1975, p. 120). They also concluded that the "internal" individual, one who makes an active attempt to control his/her environment, will relocate more successfully than the "external" person, who believes that very little he/she does will directly affect imminent changes.

The internal person, who is generally more striving, self-confident, and less anxious and apathetic, will attempt to become involved in the event, and this is believed to be a positive determinant in his/her future success in relocation. Schultz and Brenner (1977) and Wolk (1976) found that events that are predictable and desired have a powerful positive impact upon the well-being of the institutionalized aged. According to Wolk (1976) locus of control was found to be independent of an individual's health status in consideration of predicting adjustment behaviors. Thus, apparently as social and psychological factors, they could significantly affect the person's adjustment to the new environment alone. ~~In general~~, the sense of control, the illusion that one can exercise personal choice, has a definite and positive role in sustaining life, according to "Old Age: Personal Control Is Important to the Elderly" (1976). Losing personal control, concluded Reid, Haas, and Hawkings (1977) can lead to dysfunctional behavior and emotional upset. A central effect of many of the physical and social changes that is known to occur is to reduce the sense of control and effectiveness that an elderly person may desire in his everyday life.

Schultz and Brenner (1977) note that depression, helplessness, and physical decline have been linked to the patient's perceived loss of control. Belief in one's personal control has been correlated with greater life satisfaction: those who possess it have been found to be more active and to have greater differentiation, complexity, and adaptability. Social isolation, common in institutional settings, can also lead to disorientation in space and time, and to anxiety and depression. It would appear that a potentially lethal situation

could result: a social isolate, becoming anxious about an impending relocation may become depressed, believing that he has lost control over his life. This could cause further isolation and a worse prognosis for the move. Lawton (1970) concludes it possible that the social isolation of an individual who is institutionalized may be a substitute for the loss of physical privacy in the setting, and this may be an inevitable consequence.

Schwartz and Karp (1967) found that self-esteem influences a person's perceived locus of control. Positive self-regard is a key to successful aging, and plays a critical part in an individual's life satisfaction. Internal locus of control is believed by some to be the second best predictor of satisfaction among people who are over the age of 60. Those with internal control cope better and are less defensive than externally oriented people.

Attitude Toward Relocation

A patient's attitude toward the actual relocation has been found to be critical. Lawton and Yaffe (1969) learned that patients who deny the move or have a negative feeling toward it are predictive of a higher mortality rate than those whose response is satisfactory, angry or demanding. Those who express their anger, accepting the relocation philosophically, are more likely to survive than those who direct their anger against themselves and become depressed as a result, according to Aldrich and Mendkoff (1963). Pastalan and Bourestom (1975) found that patients who retreated from conflict situations by denying their anger subsequently died, and that their rate was twice that of those who expressed their anger openly. They also found that

patients who had a positive attitude toward the move relocated most successfully while those who were most negative had a good chance of initial survival following the move but then died at higher rates than other groups soon after the move.

Also related to this, Pastalan and Bourestom feel, is the patient's "style of handling problems and feelings, particularly in regard to his assertiveness or lack of it. Patients who adopted a passive stance in regard to problems died at a rate over three times greater than patients who adopted a more assertive stance. The implication is that the patient who perceives locus of control, at least in part, with himself, is better able to deal with relocation stress than is the patient who believes himself to be helpless in the face of problems and challenges" (1975, pp. 141-142).

Aldrich and Mendkoff (1963) studied mortality rates during a relocation and related patient survival to their philosophical outlook. They concluded that patients who approached the situation in a philosophical manner had the lowest mortality rate (zero percent), followed, in order, by feelings of anger (6 percent), anxiousness (15 percent), regression (27 percent), depression (41 percent), and denial (71 percent).

Voluntary Versus Involuntary Relocation

The nature of the relocation is a strong determinant in patient mortality. In a study of voluntary versus involuntary moves, Schultz and Brenner (1977) found that sixteen of seventeen involuntary movers died in the first ten weeks of relocation, compared to one of thirty-eight voluntary patients. Brand and Smith (1974) discovered

that death rates are higher for those who had no choice but to be placed in an institution when compared to those who had other options. The lack of environmental choice contributes to the patient's locus of control and is predictive of a potentially unsuccessful move. On the other hand, Lawton and Yaffe (1969) say that a voluntary move may remove some of the negative relocation side effects that normally would be expected. Those who move from home to institution, where they give up a degree of their independence, suffer more than those who move inter-institutionally, where the loss of control may already have been adjusted to. Environments that permit greater control result in greater life satisfaction for the relocatees. Those patients with the least amount of environmental control have been shown to have the highest mortality rates.

However, Reid, Haas, and Hawkings (1977) report that there is usually no relationship found between morale and locus of control, although at one time internality was associated with a greater increase in morale.

It is believed that one's sense of control and effectiveness are core components of the patient's relocation adjustment and the well-being of the elderly person. Wolk (1976) feels that an elderly person responds to his environment in stages: 1) active involvement; 2) adjustive behavior; 3) expressed satisfaction; and 4) a positive self-concept. He further states that, in an institutional setting, control of the environment would probably appear to be a potentially successful strategy for a patient's positive adaptation.

Kahana and Kahana found that impulse control has also been

influential in relocation adaptation. Defined as "the ability and willingness to delay gratification," (1975, p. 685) that is central to concepts of ego strength, it also involves the patient's ability toward reflective thinking and his apparent motor control, noting that the development of motor control and delay of gratification are necessary prerequisites for the emergence of higher levels of thought. Impulse control has a consistent and significant relationship with the various indices of adaptation.

Wolk (1976) feels that internal locus of control is positively linked to a more positive lifestyle, and has also been found to lead to a higher level of adaptation to the new environment. A pre-move condition including depression often presages negative post-relocation psychological changes.

Locus of control is believed to be more important for a man's self-concept than for a woman's, say Reid, Haas and Hawkings, and it may be concluded that this relationship is "made manifest in an institutionalized setting where it is likely that fewer avenues of personal control are available" (1977, p. 449).

Wolk (1976) also feels that the exact implication of locus of control upon institutional relocation is only one of the stressors placed upon the patient, yet much research tends to evaluate it as though it were the only variable that should or could predict a particular behavior or attitude.

Little documentation has been found in the satisfaction levels of patients regarding their physical environments. Borup, Gallego, and Heffernan (1978) report that patients generally are satisfied with the facilities' health services, locations, room colors and

furnishings, and their roommates. A sizeable number of the subjects expressed dissatisfaction with the dining facilities, cost of the facilities, bathroom facilities, and activity programs.

Communication with the Relocatee

Considering the general reaction of aged patients to inter-institutional relocation, a number of experimenters have suggested that preparatory programs for patients be mandatory for all such moves. Communication with the individual is critical: Hess and Day (1977) feel that an adequate therapeutic relationship with the patient cannot occur without it. Communication may be difficult to establish with those afflicted with blindness, deafness, or aphasia, but efforts must be made to keep the patient informed of developments during the relocation. Weinberg believes that communication between the elderly person and his environment is important in order to prevent or reduce the "state of reciprocal withdrawl, which is all too common among the aged and enhances the feeling of alienation and despair" (1970, p. 681).

Pathological disorders have at times resulted from communication abuse or absence. Berger and Rose (1977) found that elderly patients may infer that the staff of an institution prefers quiet patients to more demanding ones, and so will limit their interaction, withdrawing from the social life to varying degrees. Previous literary citations in this review note the dangers of patient nonparticipation within an institutional setting.

Cicirelli (1977) has found the elderly have a great need for communication. They have many concerns and feelings as they face

the problems of their age group, problems such as a loss of attractiveness, loss of sexuality, and the onset of physical limitations. He feels that these feelings and concerns would increase in kind and intensity to the extent that the individual must face them without the emotional support of significant others.

Brand and Smith (1974) have noted that relocated patients generally are less active and have fewer social contacts than their control cohorts. Involuntary relocation, especially, appears to be a major cause for the disruption of social networks, leading to deleterious consequences in the life adjustment of the individual.

Sensory Loss

Sensory deprivation can be a major hindrance to communication, especially among the aged. Oster says that deafness, blindness, and aphasia can discourage therapeutic attempts by medical facility staff. Common characteristics of sensory deprivation are "reduction of stimulus input levels, reduction of stimulus variability, social isolation, and confinement"(1976, p, 461). It is felt that communication must be established with patients with any of these afflictions in order to restore locus of control to the individual.

Oster also reports that the environment can participate in producing isolation through its sensory-depriving characteristics. Geriatric patients are often "warehoused" in settings where physical inactivity, along with sensory and perceptual deprivation, are imposed. These design flaws can accelerate the aging process, and increase social isolation and regression of the patient's physical, intellectual, and emotional functioning.

Preparation Prior to Relocation

Schultz and Brenner (1977), Aldrich and Mendkoff (1963), and Pastalan and Bourestom (1975), believe that the effects of institutional relocation are sufficiently severe to require pre-relocation preparation. Pastalan and Bourestom feel that the anticipation of relocation and the initial disorganization that follows the move can be as lethal to the patient as the actual move itself. They recommend that the planning and preparation of patients for relocation begin as soon as possible prior to the move and continue for a minimum of three months following.

Mass movers suffer more than those who are individually prepared. Schultz and Brenner (1977) did not, however, note that this was due either to the amount or quality of preparation given the mass-movers, although it is a possibility.

Aldrich and Mendkoff (1963) agree with Pastalan and Bourestom, saying that individual casework has also helped patients involved in institutional relocations. Pre-move preparation, they feel, is helpful in encouraging patients to recognize and accept rather than conceal their anger at moving.

Pastalan and Bourestom (1975) note that casework does not replace actual site visits to the new facility by the patients. They advocate site visits continually prior to relocation to familiarize patients with the new environment. They also note that this practice is important to the maintenance of staff morale and unity, which is a necessary input at this time for the patients' feelings of security.

In contrasting fingings, Kowalski (1978) reported no ill effects from a forced relocation of institutionalized elderly people

following a fire in which the circumstances precluded any pre-relocation preparation. Her findings state that a high mortality rate was upheld for those patients who were in poor health, but not for those who were very old or who were male.

Similarly, Borup, Gallego and Heffernan (1978) feel that pre-relocation preparation activities are useless. In their study, findings indicate that relocation did not increase the probability of mortality, and therefore concluded that such programs were not necessary in accomplishing the goal of reducing relocation-caused mortality. They add, however, that this does not exclude the possibility that such activities may indeed extend the patients' lives.

Pablo believes there are several commonalities found with respect to minimizing mortality during institutional relocation. They are: "(a) the careful planning of the move and the appreciable casework involved in the patients' preparation for relocation; (b) the nature and degree of environmental change involved; (c) and the voluntariness of the change" (1977, p. 434). Specific measures recommended are: 1) preservation of satisfying relationships; 2) maintenance of familiar surroundings through arrangement of the space and furniture in the new ward rooms; and 3) scheduling transfers so that the disruption of everyday routines and family visitation patterns are kept to a minimum.

Support for ecological studies of the environments affecting individuals is growing. Moos et al state that it is necessary to study the "socio-ecological setting" within which older people function, since it can influence their "attitude and moods, their behavior, their health, and their overall sense of well-being"

(1979, p. 74).

Koncelik feels that openness in health care facilities is desired. The key to this, he says, "is to focus upon the needs, general requirements, and desires of this population from the beginning of the design process. One important facet is to express appropriate concern for the residential qualities of the physical environment, as well as the health care service aspects of the setting. It would be better to overstress residency vis-a-vis health care in the general qualitative atmosphere" (1976, p. 40) in order to prevent the medical or aesthetic aspects of the institution from predominating during and following a relocation.

Predictors characteristic of survival and design specifications for institutionalized settings are indicated as being necessary for the improvement of the welfare of those who reside in health care settings. Narrowing the field of possible significant attributes of the physical environment and its inhabitants to more closely identify appropriate procedures to be followed during a relocation is suggested by the literary findings. Based in part upon the writing of Trippett, the concept of "satisfaction" with the environment is suggested as a research direction more strongly than "happiness" because "young people tend to report more happiness than satisfaction, while older people tend to say that they are more satisfied than they are happy" (1979, p. 100).

Summary

Survival following an institutional relocation appears to be a function of many interdependent factors, as cited in this review of

literature, the influence of which are of varying levels of importance, as felt by the respective researchers.

It is impossible at this point to identify a particular aspect of an impending relocation, or of a patient who will be relocated, as being most predictive of the relocation outcome (i.e.: nonsurvival, survival, or satisfaction level). The literature cites what appear to be the factors most in need of investigation, and they can be divided into five categories: change undergone; physical and mental health; control exerted; personality type; and the communication with the patients prior to relocation in preparation for the move.

There is a general agreement that the degree and type of change involved will affect the patients. A consensus of opinion regarding the critical amounts of change tolerable to an older, institutionalized person, as well as the identification of particular changes that may be more detrimental to the patient, is unavailable. This area, especially as it relates to the patient's interface with the physical environment, is in particular need of study.

The effects of the physical and mental health status upon the patients are unclear from the literature. Research generally indicates that younger, healthier patients tend to relocate better, but contradictory findings cloud a definitive consensus.

Locus of control research seems to be quite clear. It is widely believed that individuals who assert more power over choice, when it is presented to them, generally possess a higher sense of self-esteem, which, in turn, would help them in their readjustment to a new location. However, research directly relating to institutional

relocations is needed.

Personality type, as reflected in the manner in which a patient views an impending move, is felt to be predictive of his eventual relocation. Literature relative to this subject was found to be highly in agreement.

Most research concerning communication with institutionalized patients prior to a relocation concludes that lengthy, detailed preparation of the patients for the move is necessary and positive both prior to and following the event. However, contrasting findings again impede the conclusiveness in this area.

Other factors may impinge upon the individual during a relocation, as discussed in this review of literature. Predictors characteristic of survival and design specifications for institutional settings are indicated as being necessary for the improvement of the welfare of those who reside in health care settings. Narrowing the field of possible significant attributes of the physical environment and its inhabitants to more closely identify appropriate procedures to be followed during a relocation is suggested by the literary findings. The concept of "satisfaction" with the environment is suggested as a research direction more strongly than "happiness," since happiness would appear to be a more elusive, less critical factor at this stage of investigation.

The research reviewed indicated a definite lack of understanding between the individual and the physical environment, specifically in dealing with the possible effects that the physical environment can have on modifying the quality of health care in a medical

care setting. Questions unanswered center around the effects of the physical environment on both patients and the staffs in medical care facilities, as both are concerned with patient care.

CHAPTER III

STUDY METHODOLOGY AND PROCEDURE

The procedures used in this study are presented in this chapter and consist of sample selection and description, a description of the "before" and "after" settings, instrument selection and description, data collection and data analysis.

Sample Selection and Description

The population at the ICMCF in June, 1978, totaled 177. The study sample was selected from this population based on the following qualifications: 1) the patient was at least 55 years of age; 2) the patient was judged to be interviewable; 3) the patient had resided at the ICMCF prior to the move and planned to remain in the ICMCF at least until the second interview three months after the relocation; and 4) the patient or his/her family had previously given written permission to the ICMCF for participation in academic studies.

A list of fifty possible patients was suggested by the ICMCF staff, and from this list thirty-seven subjects who met the above criteria were eventually selected. Several who were originally selected for inclusion in the study were eliminated due to their reluctance to answer the questions and their extreme suspiciousness of the nature of the study. Two patients specifically cited their having "to answer too many questions around this place" as the reason for their disinterest with the study and the researcher.

The average age of all subjects at the time of relocation

was 76.5 years, with women averaging eighty years and men sixty-nine years. Table 1 shows the patients' age and gender characteristics.

TABLE 1.--Age and Gender Characteristics of the Thirty-seven Patients Who Participated in the Study.

Gender	Age					
	55-64	65-74	75-84	85-94	95+	Total
male	3	8	3	-	-	14
female	2	4	7	8	2	23
total	5	12	10	8	2	37

Sensory loss severe enough to inhibit conversation was not a factor with any patient. Several patients had visual or auditory losses, but none interfered with the administration of the instruments. Indeed, visual losses discouraged close visual handwork by a few women, and appeared to incline them toward more conversation during the interviews. Field notes taken at the time proved helpful in later analyses.

In order to lessen the negative effects of relocation, all of the patients were nurtured by the ICMCF staff prior to and following the relocation. Anxieties were soothed and questions regarding the impending move and subsequent new environment were answered by the staff as often as possible on a continual basis.

Although many of the patients said they would prefer living in their own homes and may not have volunteered to move to the original ICMCF in the first place[1], most made the move to the new building positively. As noted in Chapter II, the Review of the Literature,

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[1]It must be noted that the ICMCF is a skilled nursing facility. To qualify for admittance, the patient's physician is required to complete the Greater Lansing 3-Page Referral, a document including medical information from the attending physician, nursing care required by the patient, and a social history. This is the only document required for admittance. All patients must be residents of Ingham County, Michigan.

this is an important step toward a successful relocation experience for the patients.

Eighty-four percent of the patients in this study were non-ambulatory. Also, at any one time, the vast majority of the patients at the ICMCF are not self-supporting, most relying upon Medicare or Medicaid for their payment to the facility.

Description of the Settings

Prior to Relocation - The old ICMCF resembled what one might call a "county home." Multi-storied, red brick, and with a white portico in front, the building rested back a few hundred feet from the road, and the expansive lawn separating it from the road decisively indicated that this place was "different." Upon driving closer to the structure, you could see that it was a well-tended place, and had a ubiquitous staff that worked hard to keep the patients comfortable. But still, it was different.

Inside, the building took some getting used to. First, the antiseptic odor pervaded the glossy hallways, and any sound reverberated off their tiled walls. Isolated from fenestration and illuminated only by occasional but regularly suspended flourescent lights, the hallways were narrow, relatively dark, and claustrophobic. Yet, they were populated by patients in wheelchairs who said they were there due to a lack of anywhere else to go.

Patient rooms ranged from housing one to eight people. Most housed four or more, and, in these cases, the patients could rightly identify as their territories their bed, the few feet next to their bed, and the adjacent nightstand. Some of the less fortunate who were

situated on the inside of the rooms could not call a window "theirs." All color in the rooms was barely perceptable.

Participation in activities meant trips up and down the single disreputable and undependable elevator: many patients voiced an insistent hatred of that which they felt was an adversary to their independence. And, when they did venture on that elevator to attend classes, such as in handicrafts or horticulture, or to participate in church services, their destination was the dark, dank, crowded basement.

The saving grace, according to many patients, was the staff. Their interest, morale, and skill impressed the patients and was often the subject of their praise.

Following the Relocation - When July 31 and August 1, 1978, came, the patients were moved into the new ICMCF, a low, complex structure that seemed to reach out to the road upon which it was located. Since this building was built next door to the old ICMCF, the patients watched its progress until they moved in.

Constructed on one level, the building is comprised of a central diamond attached to two four-pronged spokes which contain the patient rooms (see figure 4). It is a wide-open appearing building, with many low, large windows that help project the feeling of airiness. The highlight of this aspect of the facility is the greenhouse which is visible as the individual enters through the front door and proceeds down the main hallway. One of the primary components of the solar energy system for the facility, the greenhouse measures approximately forty feet at its widest point, and is a virtual jungle of color, size, and shape.

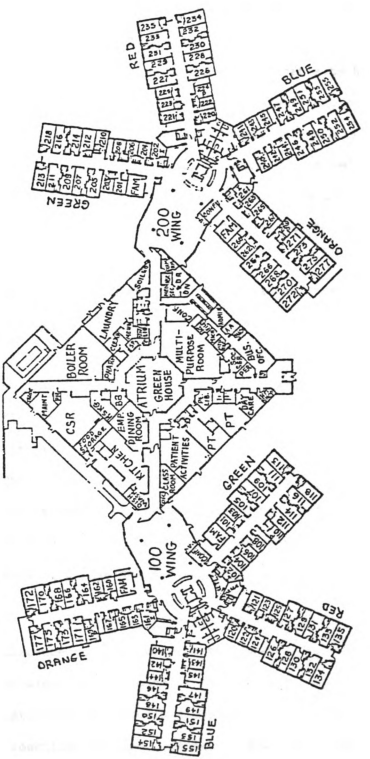

FIGURE 4.--Floorplan of the new Ingham County Medical Care Facility

This area provides an interesting view, opportunities for incidental companionship, and, because of the sunshine and warmth, a soothing area for patients to spend their time.

Because it is all on one level, the patients have great freedom to wander around the facility, and naturally are more independent than they were in the old building. Bright colors of yellow, orange, blue, green, and red flourish and, it seems, serve two purposes: they create exciting, interesting interior spaces, and they also serve to distinguish the patients' own rooms ("I live on the green hall.") from the rooms of others.

Activity rooms, physical therapy facilities, medical services, and dining areas are located centrally, so, while the occupants may have to travel a considerable distance from their rooms in order to visit these places, the way is unimpeded by architectural barriers. Additionally, and gratefully for the patients' convenience, no elevator is on the premises.

The relocation from the "before" to the "after" physical setting provided a number of changes for the patients. For the reason that the personnel did not change substantially, the relocation is being treated as a physical environmental change only in this study.

Instrument Selection and Description

Instruments were selected that would measure the mental alertness and physical independence of the subjects, and also the actual characteristics of the immediate physical environments along with the patients' reactions to them. Copies of all instrumentation appear in the appendices to this study.

Mental Alertness and Physical Independence

Mental Status Questionnaire - The Mental Status Questionnaire (MSQ) is a ten-item questionnaire which tests for alertness to orientation in time, place, and person. Scores obtained are based upon the number of incorrect responses to the questions, giving a "quantitative index of mental functioning," according to Kahn, Goldfarb, Pollack and Peck (1960, p. 236). The developers of this test feel that the brevity and objectivity of this measure lend themselves to rapid clinical screening and research. It has been especially useful in studies of institutionalized patients when a measure of mental functioning has been required.

Activities of Dsily Living Scale - As developed by Katz, the Activities of Daily Living Scale (ADL) is a "scale whose grades reflect profiles of behavioral levels of six sociobiological functions, namely bathing, dressing, toileting, transfer, continence, and feeding. Its hierarchical nature makes it possible to rank the overall functional status of people in an ordered manner, to make comparisons among them as individuals or groups, and to detect changes over time" (Katz and Akpom, 1976, p. 493). In use and evolution for over twenty years, it has been helpful in contributing information concerning health needs and outcomes that are beneficial for management, planning, policy-making, research and teaching.

Patients are graded according to the total number of activities in which they are judged to be independent, as defined by the ADL form. Grading is as follows:

> "A - Independent in feeding, continence, transferring, going to toilet, dressing and bathing

B - Independent in all but one of these functions

C - Independent in all but bathing and one additional function

D - Independent in all but bathing, dressing and one additional function

E - Independent in all but bathing, dressing, going to toilet and one additional function

F - Independent in all but bathing, dressing, going to toilet, transferring, and one additional function

G - Dependent in all six functions

Other - Dependent in at least two functions, but not classifiable as C, D, E, or F." (1976, p. 496)

Physical Environment

Physical Environmental Checklist - The Physical Environmental Checklist (PEC), developed by the researcher for this study, is designed to observe both the actual physical characteristics of the immediate environment and the patients' subjective rating of satisfaction with the various environmental aspects in question. The items chosen for the PEC were those that were felt might impact upon the patient. Additionally, several questions of a summarizing nature are included to ascertain overall satisfaction with the immediate physical environment.

The "immediate physical environment" is defined as the patient's own room at the ICMCF: the space the patient occupies, be it in a single or multi-bedded room, extending to the doorway leading to the hall. In its development, physical characteristics of the immediate environment were selected that were thought to have influence upon individual taste, preference, and comfort. They dealt with size,

design materials, color, and orientation as reflected in the room. The PEC's purpose is to identify which, of any, aspects of the physical environment in the institutional setting significantly affect the patients. Frequency counts of environmental aspects receiving positive or negative ratings will indicate those aspects which were received favorably or unfavorably by the patients, and an overall score for each patient prior to the move, combining positive, negative, and neutral responses, will be compared to an identically obtained score following the move to determine general environmental satisfaction.

Procedure

Data Gathering Techniques

Permission to undertake this study was obtained from the ICMCF in the spring of 1978. This permission was granted following a verbal description of the objectives of the research and assurances to the administrative staff that interference with neither the operation of the facility nor the treatment of patients would occur. The administrators contacted at the time were acutely aware of mortality rates that were said to be associated with institutional relocations, and were extremely curious to see if their efforts to prepare their patients would prove to be beneficial. They were particularly interested in the possible documentation that this research might provide so that in the future they might advise other hired personnel in institutions considering relocation. It is noted that the cooperation of the administrator and social worker most closely associated with the study was exemplary. Their time and informed concerns afforded invaluable insight into aspects of the facility's operation and policies, along

with providing a supportive environment within which to conduct the study. Their obvious interest in the patients and the findings of the research aided the progress of the study.

The list of possible study subjects was prepared by an administrator from the names of patients who had agreed to cooperate in research projects. The ICMCF had on file, as part of their standard operating procedure, signed forms by the patients or their families indicating whether they would or would not consent to be included in academic studies. For this reason, a great deal of time was saved by not having to request this permission of the individual patients.

Demographic information from the files of the ICMCF was also obtained. Patient gender, birthdate, marital status and educational level were recorded for each subject, along with their date of admittance to the ICMCF and their anticipated length of stay. In the process of obtaining this information, it was noted that the educational level and marital status data for the patients was changed several times on the record cards, and thus the reliability of this information was questionnable. Thus, it was felt that these two variables would not be included in the analysis.

Information regarding the patients' pre-relocation participation in activities designed to prepare them for their new environment was obtained from the conferring social worker at the ICMCF. The activities made available to the patient for participation consisted of selecting roommates, rooms, and room colors. The opportunity for further participation in areas undefined by the staff was assumed by only two patients. One patient helped select paintings for the facility's public spaces, and another helped determine the

size of the new single rooms by maneuvering his electric wheelchair within the outlined space of the proposed area. The area size was suggested by federal guidelines, but as a result of this effort, the size of these rooms was increased to reflect his movement. The recording of this data provided the amount and type of "control" which was exerted by each patient. The next step in the data gathering stage of the research was the actual interviewing of the patients.

It was felt that no interviews could be scheduled that would conflict with any ongoing programs of the ICMCF. Furthermore, it was impossible to arrange a standard interviewing time for these patients. As a result, interviews had to be conducted on a "whenever possible" basis. This meant that the interviewer had to be available on a continual basis seven days a week during the interviewing periods, and contributed to the fact that the three interviews with each patient were each approximately three months apart. These constraints made the interviewing stage of data gathering a highly labor and time intensive effort.

During the first interview, the subjects were told about the study: that their reactions to the new and old ICMCF buildings were being solicited in order to better plan similar structures in the future. Following the outline of the problem, the patients were asked if they would like to participate, and those who agreed and met the previously mentioned qualifications comprised the study sample.

Interviews were then begun with the patients prior to the move, and were repeated three months following the actual move, and again six months following the move. This time frame, as suggested by the literature, is believed to include the period during which the

patients would be most affected by the relocation trauma.

A special note regarding the actual interview procedure is necessary here. Data were collected from June, 1978, until March, 1978. Lengthy periods of time were devoted to and particular attention and care were given to each individual during the interview period in order to establish a sincere rapport between subject and interviewer. Three specific conditions were noted that called for special effort during the interviews: 1) The elderly patients in this institution were separated from their families, which tended to cause extreme loneliness at times; 2) most had chronic physical ailments; and 3) because of the facility's proximity to Michigan State University (making it a natural "laboratory" for academic projects) some patients were wary of outsiders coming in to ask them questions. Indeed, two patients who were originally suggested as possible participants in the study, as mentioned earlier, were eventually eliminated for reasons directly related to this fact.

Taking these factors into consideration, the interviews were conducted in a conversational tone. It was necessary to convey the genuine interest that the researcher had in each patient in order to cultivate the trusting relationship necessary for obtaining the answers requested in the interviews. Interviewing elderly patients in situations such as this tended to suggest the usage of a non-schedule standardized interview, a method which allows freedom to the interviewer and respondent while also providing a framework for the collection of comparable and classifiable data. According to Richardson, Dohrenwend and Klein, "Where the respondents are heterogeneous and the study deals with sensitive topics which are not discussed widely and

openly, the non-schedule standardized interview appears more appropriate" (1965, p. 52).

The individual interviews lasted from a minimum of ten minutes to a maximum of one and one-half hours, averaging approximately thirty minutes. Specific patient responses to questions sought by the instrumentation was recorded during the individual patient interviews. Field notes were added following the interviews if noteworthy observations pertaining to the patients' behavior (i.e.: a behavior change from earlier interview periods) occurred. The interpersonal relationships developed during this time period often helped explain why certain trends or responses occurred with particular individuals. For example, one woman who was severly crippled with arthritis and in great pain initially responded negatively toward attempts at conversation and interviewing by the researcher. However, after rapport and trust were established she proved to be an excellent subject.

In addition to improving the quality of the respondents' answers, noted by their comparative completeness, the degree of acquaintence helped produce a challenging, enjoyable atmosphere for which to conduct the study. The desire to know how these people felt and how they would eventually relocate sustained the researcher's interest for the duration of the data collection period.

The initial interview schedule consisted of three sections and only two sections were included in the second and third interviews. The first interviews were conducted prior to June, 1978, and the patients were initially questioned regarding their satisfaction with the old facility. Specifically, they were asked to rate their satisfaction with their rooms and with the imminent prospect of relocation to the

new building. A single question inquiry into the self-assessed health of the patients was then asked. A five-point Likert-type scale was used with three questions, with the following classifications being used: very satisfied; quite satisfied; satisfied; not very satisfied; and not satisfied at all.

In the second and third interviews, this section was necessarily eliminated. The questions of room satisfaction were covered with the completion of the PEC.

The second step of the patient interviews consisted of recording the objective physical characteristics of the room on the PEC. In both ICMCF buildings, this included actually measuring the room sizes and the personal patient territories within those spaces. During the interview, patients were asked their feelings of satisfaction with the various physical characteristics that were being investigated, and their responses were classified as being positive (satisfied) or negative (not satisfied or not caring).

The last step included the administration of the MSQ. Depending upon the perceived alertness of the patient, various verbal introductions to the instrument were used so as to elicit appropriate responses. However, the ten questions of the MSQ were worded identically throughout. For example, very alert patients were advised "Now I have some questions for you that are different, maybe even a little silly." Less alert patients were made aware of the different nature of the questions, with no further explanation. These techniques were utilized to prepare the patients for the type of questions in the MSQ and to affirm the fact that the administration of the test was essential to the study as an objective measure.

The ADL forms were distributed at the beginning of each of the three interview periods, and were collected following their completion. The nursing staff at the ICMCF voluntarily completed the ADL forms for each patient, along with anwering questions concerning the seriousness of the patients' illnesses and projections of their life expectancy for the next year were a relocation not occurring.

Informal field notes were taken at the times of the interviews. These concerned noting the mood and personality of each patient at the time of each interview, and proved to be helpful in a general understanding of patient responses. For example, during the last interview, one of the women was extremely talkative, although somewhat removed, and did not want to end the session. The fieldnotes indicated that in the two previous interviews she had made it clear that she would participate, but really did not care about the study. These interviews were extremely short. At the last interview her behavior indicated that something had happened. It was soon learned from her that her roommate had died the night before, and this event was having a definite effect upon her attitude, at least for the time being. The notes proved to be helpful several other times in similar ways.

Figure 5 details the administration periods for each instrument used in the study.

Data Analysis Techniques

The data analysis techniques had to satisfy two conditions as set by the data gathered: 1) the research questions asked, and 2) the level of measurement of the independent and dependent variables.

Area Measured:	Instrument:	Source:	Frequency:	Goal:
1. mortality	facility records	facility	at baseline, and at each assessment period	contrast mortality of relocated population with mortality at same institution during a non-relocation year
2. morbidity	Activities of Daily Living Scale	staff	at baseline, each assessment period	assess changes in patients' independence/dependence over time
3. overall patient health	facility records	staff	at baseline, each assessment period	assess changes in physical health over time
4. demographic	age, sex,	facility records	at baseline	to test associations with outcome of relocation
5. mental status	Mental Status Questionnaire	patient	at baseline and each assessment period	to evaluate relationship of mental status and relocation outcomes
6. attitude toward relocation	question	patient	at baseline	to evaluate patients' feeling toward move - to evaluate relationship between it and relocation outcomes
7. physical environment	Physical Environmental Checklist	researcher and patient	at baseline and first assessment period	to objectively assess "before" and "after" physical environments, to record patients' subjective feelings toward the environments, and to relate changes to relocation outcome

FIGURE 5.--Instruments Utilized in the Study: Their purposes, periods of administration, and Sources of Information.

This latter point is very important since it divides, generally speaking, the set of possible analytic techniques into two domains, non-parametric and parametric.

As noted earlier, this is an exploratory study. This suggests among other things, that the opportunities to judiciously introduce, delete and combine variables need to exist to lay bare any underlying structure to the data. Subtle shifts also need to be detected. Because of these needs and because most of the variables were felt, most defensibly, to be at best ordinal, a crosstabulation of the data, independent by the dependent variables, was determined to be the most appropriate technique.

A Pearson Correlation was done, but other than providing, in a most general sense, a direction within which to pursue certain variable combinations, the results obtained were not helpful.

The findings of this study suggest an ordering of aspects of the physical environment that could be interpreted as interval data, and this could be built upon in future studies, perhaps utilizing a multiple regression.

Crosstabulation - Specific comparisons for the analyses of the data were created by crossing the dependent variables (non-survival, survival, and satisfaction) with the independent variables (mental status, physical health, total physical environmental control exerted, specific physical environmental control exerted, total physical environmental changes perceived, and specific physical environmental changes perceived). Table 2 illustrates these combinations.

TABLE 2.--Specific Combinations of Dependent and Independent Variables Compared in Two-by-Two Contingency Tables as Created by the Process of Crosstabulation.

Independent variables	Dependent variables non-survival	survival	satisfaction
mental status	X	X	X
physical health	X	X	X
control exerted:			
total	X	X	X
specific	X	X	X
physical environmental changes perceived:			
total	X	X	X
specific	X	X	X

Details summarizing the two-by-two contingency tables created by the process of crosstabulation appear in Chapter IV, Results and Discussion.

CHAPTER IV

RESULTS AND DISCUSSION

The analyses and discussion of the data will be presented in this chapter in the following manner. First, the research question under consideration will be stated, with the individual research questions addressed separately. Each of these sections will consist of four subsections: the presentation of the research question, a statement of the findings, the necessary statistical analysis, and a discussion of the findings as related to the research question. An overall summary of the findings will conclude the chapter.

Presentation of the Research Questions, Findings and Implications

Research Question 1: Are patients who are more mentally alert, as measured by the Mental Status Questionnaire, more likely to survive relocation than those who are shown to be less alert?

The low number of patients who died following relocation inhibits the results in this case, and caution must be heeded. The patients who died had consistently lower MSQ scores than those who survived. Table 3 illustrates the average MSQ scores for the patients who died following, or survived the relocation at the pre-move, three-month, and six-month interview periods.

TABLE 3.--Average MSQ Scores for Patients Who Survived or Did Not Survive the Relocation at the Pre-move, Three-month, and Six-month Interview Periods.

		Pre-move interview	Three-month interview	Six-month interview
patients	survived	6.9	6.9	6.9
	did not survive	6.0	6.5	4.0

Table 4 details the confounding variables of age and gender, and again describes all of the patients in the study, illustrating the average age of the groups that died and survived following relocation, according to gender.

TABLE 4.--Age and Gender Characteristics of Patients Who Survived or Did Not Survive the Relocation.

			Age					
		Gender	50-59	60-69	70-79	80-89	90-99	Average
patient	survived	male	1	6	3	-	-	67.4
		female	-	3	5	10	4	80.8
	did not survive	male	-	1	2	1	-	73.25
		female	-	-	-	1	-	85

Predictors of death cannot be inferred from these data, only the concept that several causes may be involved, including acute physical disability.

Research Question 2: Are the more mentally alert patients, as measured by the Mental Status Questionnaire, more likely to be satisfied with their new environments?

In order to judge the effect of the MSQ on satisfaction, a summary of the crosstabulation of these scores is presented in Table 5. The MSQ scores tended to cluster at the upper end of the scale. Accordingly, the distribution had to be "collapsed" so as to get an accumulation of scores that could descriptively discriminate between patients. The decision was made to divide the scale at its midpoint and to arbitrarily call the upper half "high" and the bottom half "low."

It thus appears that the patients who ranked in the upper half of the MSQ (scoring a six or better) were indeed more satisfied with their new environments following the relocation. Table 5 illustrates that prior to the move, 63.8 percent of the patients were satisfied with their rooms -- with those patients scoring six or more on the MSQ accounting for 78.3 percent of the total satisfaction. Of those people scoring a six or above on the MSQ, a higher proportion, 13.9 percent, were dissatisfied with their old ICMCF rooms, compared to only 2.8 percent of those judged less alert.

Following the move, Table 5 shows that the more mentally alert patients accounted for 96.2 percent of the total satisfaction at the three-month follow-up period, and 79.3 percent of it at the six-month interview. Overall, these patients were consistently more satisfied.

The patients scoring at least six on the MSQ show a more changeable level of satisfaction than the less alert patients, indicating that they are more sensitive to their immediate environments. These findings suggest that both positive and negative reactions should be taken into account when preparing patients for relocation.

TABLE 5.--All Patients' Reported Satisfaction as Related To Their MSQ Scores.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	MSQ <6	MSQ ≥6	TOTAL	MSQ <6	MSQ ≥6	TOTAL	MSQ <6	MSQ ≥6	TOTAL
	Positive Reported Satisfaction								
cell count	5	18	23	1	25	26	6	23	29
row percentage	21.7	78.3		3.8	96.2		20.7	79.3	
column percentage	83.3	60.0		50.0	86.2		85.7	92.0	
total percentage	13.9	50.0	63.9	3.2	80.6	83.9	18.8	71.9	90.6
	Negative Reported Satisfaction								
cell count	1	12	13	1	4	5	1	2	3
row percentage	7.7	92.3		20.0	80.0		33.3	66.7	
column percentage	16.7	40.0		50.0	13.8		14.3	8.0	
total percentage	2.8	33.3	36.1	3.2	12.9	16.1	3.1	6.2	9.4
	Total Column Results								
total column count	6	30	36	2	29	31	7	25	32
total percentage	16.7	83.3	100.0	6.4	93.5	100.0	21.9	78.1	100.0

These findings may be clarified by inspecting both the "total" percentages and the percentages found in the individual cells. Total column percentages dropped 16 percent (from 93.5 percent to 78.1 percent) between the three-month and six-month interview periods, suggesting there is a shift toward lower MSQ scores. The overall satisfaction reflected in the row totals increased by approximately 7 percent (from 83.9 percent to 90.6 percent). The notion of the process of crosstabulation must be recalled at this point and, in particular, how the relative distribution of scores across all cells contributes to these row and column percentages. Thus, while it is true that those who reported satisfaction with their environments also scored a six or better on their MSQs, it is also interesting to note that over time there is a meaningful shift among the less alert toward more satisfaction and that among the more alert there is a shift toward less satisfaction.

Environmental Satisfaction and Mental Alertness as Related to Gender - Generally speaking, men expressed satisfaction with their immediate physical environments following the relocation. Table 6 shows that prior to the move, the greatest percentage of men was that which expressed satisfaction with their rooms and also scored at least six on their MSQs. Fewer men than women expressed satisfaction with their rooms at the old ICMCF (see Table 7 for the womens' reactions) but Table 6 shows that at the three-month follow-up the percentage of men who reported satisfaction increased, with 84.6 percent of those scoring at least six on the MSQ. By the six-month interview period, the general satisfaction level for men had dropped, with

TABLE 6.--Male Patients' Reported Satisfaction as Related to Their MSQ Scores.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	MSQ <6	MSQ ≥6	TOTAL	MSQ <6	MSQ ≥6	TOTAL	MSQ <6	MSQ ≥6	TOTAL
	Positive Reported Satisfaction								
cell count	1	6	7	1	11	12	2	7	9
row percentage	14.3	85.7		8.3	91.7		22.2	77.8	
column percentage	50.0	54.5		50.0	100.0		66.7	87.5	
total percentage	7.7	46.1	53.8	7.7	84.6	92.3	18.2	63.6	81.8
	Negative Reported Satisfaction								
cell count	1	5	6	1	0	1	1	1	2
row percentage	16.7	83.3		100.0	0		50.0	50.0	
column percentage	50.0	54.5		50.0	0		33.3	12.5	
total percentage	7.7	38.5	46.2	7.0	0	7.7	9.1	9.1	18.2
	Total Column Results								
total column count	2	11	13	2	11	13	3	8	11
total percentage	15.4	84.6	100.0	15.4	84.6	100.0	27.3	72.7	100.0

the number of patients reporting satisfaction and scoring six or better on the MSQ 21 percent fewer in number than at the three-month interview.

Prior to the relocation, women reported more satisfaction with their rooms, with 75 percent of those who reported satisfaction belonging to the more mentally alert group. Table 7 shows that, overall, the women who were more mentally alert reported more satisfaction at the three-month and six-month interview periods than did those who were less alert.

The reaction of the women at the three interview periods more closely reflects that of the patients as a whole, as illustrated in Table 5. Again, it would appear that the individuals who scored higher on the MSQ would be better equipped to notice change, both of a positive and negative nature and thus would be more prone to express satisfaction when relocated to an improved physical space.

Following the move, the men seemed to be influenced by a halo effect around the three-month interview period that receded somewhat by the six-month follow-up. Women maintained a more steady and positively skewed trend of satisfaction following the move, indicating that they probably are better suited for living in an environment of this type at this time than the men are. Their relocation pattern did not seem to be as volatile.

This sheds some light on techniques that may be utilized to prepare patients for relocation, implying that men require different types of measures be used not so much to diminish the apparent halo effect at the three-month follow-up period as to lessen the subsequent six-month downturn.

TABLE 7.--Female Patients' Reported Satisfaction as Related to Their MSQ Scores.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	MSQ <6	MSQ ≥6	TOTAL	MSQ <6	MSQ ≥6	TOTAL	MSQ <6	MSQ ≥6	TOTAL
	Positive Reported Satisfaction								
cell count	4	12	16	0	14	14	4	6	20
row percentage	25.0	75.0		0	100.0		20.0	80.0	
column percentage	100.0	68.2		0	77.8		100.0	94.1	
total percentage	17.4	52.2	69.6	0	77.8	77.8	19.1	76.2	95.2
	Negative Reported Satisfaction								
cell count	0	7	7	0	4	4	0	1	1
row percentage	0	100.0		0	100.0		0	100.0	
column percentage	0	36.8		0	22.2		0	5.9	
total percentage	0	30.4	30.4	0	22.2	22.2	0	4.8	4.8
	Total Column Results								
total column count	4	19	23	0	18	18	4	17	21
total percentage	17.4	82.6	100.0	0	100.0	100.0	19.0	81.0	100.0

The fact that the mens' performance on the MSQ drops places additional concern on this issue, ramifications of which are unexplained by the data presented here.

Research Question 3: Do patients who exert control (option of choice) over their new environments prior to relocation survive relocation better than those who do not?

Again, in order to produce an accumulation of scores that might descriptively discriminate the sample, the distribution of patients had to be "collapsed." The decision was made to divide the scale of possible control choices exerted at its midpoint and to arbitrarily call three or four controls exerted "more" and one or two controls exerted "less."

Patients were provided with four categories of opportunities to exert control over their future environments: choice of roommate, choice of room, choice of room color, and other undefined patient contributions, such as suggestions relating to the paintings that were placed in the facility.

Table 8 shows that of the five patients who died, four participated in more than two of the control categories. From the information available, these individuals participated at a proportionately higher rate than those who survived. Again, caution must be stressed because of the small cell sizes.

TABLE 8.--Survivors and Nonsurvivors as Related to Their Participation in a Total of Four Possible Areas of Control: Roommate, Room, Room Color, and "Other" Selection.

	Six-month follow-up		
	Control <3	Control ≥3	Total
	Survivors		
cell count	10	22	32
row percentage	31.2	68.8	
column percentage	90.9	84.6	
total percentage	27.0	59.4	86.5
	Nonsurvivors		
cell count	1	4	5
row percentage	20.0	80.0	
column percentage	9.1	15.4	
total percentage	2.7	10.8	13.5
	Total column results		
total column count	11	26	37
total percentage	29.7	70.3	100.0

Therefore, from this limited data, greater amounts of control exerted prior to relocation would not appear to improve survival rates.

Research Question 4: Are patients who exert control (option of choice) over their new environments prior to relocation likely to be more satisfied following relocation?

Overall, it appears that those patients who exerted more control, participating in at least two of the available categories mentioned in Research Question 3, expressed satisfaction following the relocation (see Table 9).

At the three-month follow-up period, there was an approximate 24 percent increase in overall positive satisfaction, which increased

TABLE 9.--All Patients' Reported Satisfaction as Related to Their Participation in a Total of Four Possible Areas of Control: Roommate, Room, Room Color and "Other" Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control <3	Control ≥3	Total	Control <3	Control ≥3	Total	Control <3	Control ≥3	Total
	Positive Reported Satisfaction								
cell count	5	17	22	9	20	29	10	19	29
row percentage	22.7	77.3		31.0	69.0		34.5	65.5	
column percentage	45.4	65.4		81.8	83.3		100.0	86.4	
total percentage	13.5	70.3	59.4	25.7	57.1	82.8	31.2	59.4	90.0
	Negative Reported Satisfaction								
cell count	6	9	15	2	4	6	0	3	3
row percentage	40.0	60.0		33.3	66.7		0	100.0	
column percentage	54.5	34.6		18.2	16.7		0	13.6	
total percentage	16.2	24.3	40.5	5.7	11.4	17.1	0	9.4	9.4
	Total Column Results								
total column count	11	26	37	11	24	35	10	22	32
total percentage	29.7	70.3	100.0	31.4	68.6	100.0	31.2	68.8	100.0

an additional 7.2 percent by the six-month interview. The patients who exerted more control accounted for 69 percent and 65.5 percent of the satisfaction respectively.

Control Exerted and Satisfaction as Related to Gender - Following the move, the overall satisfaction level for men initially climbed approximately 35 percent and then remained relatively constant at the six-month period (see Table 10). However, 57.1 percent of the men did not exert control in at least two categories prior to the relocation, and, at the three-month and six-month follow-up interviews, the percentage of men who did exert more control and were satisfied continually drops. Table 10 indicates that only 22.2 percent of the men who were satisfied also exerted control in at least two categories.

Contrary to the men, the percentage of women who exerted control in at least two categories and were satisfied increased steadily at each interview period (see Table 11), indicating that this is an important consideration for women.

A more detailed analysis of this research question follows, with each category of control analyzed separately, first by the entire patient sample and then by gender.

Patient Satisfaction as Related to Specific Aspects of Control: Roommate Selection. Table 12 indicates that people who chose their roommates reported the most satisfaction following the relocation at both the three-month and six-month follow-up periods. However, this may be a function of gender. One hundred percent of the females participated in roommate selection, and at both the three-month and six-month interview periods were very satisfied with the relocation. Table 13 illustrates that their expressed satisfaction

TABLE 10.--Male Patients' Reported Satisfaction as Related to Their Participation in a Total of Four Possible Areas of Control: Roommate, Room, Room Color and "Other" Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control <3	Control ≥3	Total	Control <3	Control ≥3	Total	Control <3	Control ≥3	Total
	Positive Reported Satisfaction								
cell count	4	3	7	7	4	11	7	2	9
row percentage	57.1	42.8		63.6	36.4		77.8	22.2	
column percentage	50.0	50.0		87.5	80.0		100.0	50.0	
total percentage	28.6	21.4	50.0	53.8	30.8	84.6	63.6	18.2	81.8
	Negative Reported Satisfaction								
cell count	4	3	7	1	1	2	0	2	2
row percentage	51.7	42.8		50.0	50.0		0	100.0	
column percentage	50.0	50.0		12.5	20.0		0	50.0	
total percentage	28.6	21.4	50.0	7.7	7.7	15.4	0	18.2	18.2
	Total Column Results								
total column count	8	6	14	8	5	13	7	4	11
total percentage	57.1	42.8	100.0	61.5	38.5	100.0	63.6	36.4	100.0

TABLE 11.--Female Patients' Reported Satisfaction as Related to Their Participation in a Total of Four Possible Areas of Control: Roommate, Room, Room Color and "Other" Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control <3	Control ≥3	Total	Control <3	Control ≥3	Total	Control <3	Control ≥3	Total
	Positive Reported Satisfaction								
cell count	1	14	15	2	16	18	3	17	20
row percentage	6.7	93.3		11.1	88.9		15.0	85.0	
column percentage	33.3	70.0		66.7	84.2		100.0	94.4	
total percentage	4.3	60.9	65.2	9.1	72.7	81.8	14.3	81.0	95.2
	Negative Reported Satisfaction								
cell count	2	6	8	1	3	4	0	1	1
row percentage	25.0	75.0		25.0	75.0		0	100.0	
column percentage	66.7	30.0		33.3	15.8		0	5.6	
total percentage	8.7	28.1	34.8	4.5	13.6	18.2	0	4.8	4.8
	Total Column Results								
total column count	3	20	23	3	19	22	3	18	21
total percentage	13.0	87.0	100.0	13.6	86.4	100.0	14.3	85.7	100.0

TABLE 12.--All Patients' Reported Satisfaction as Related to Their Participation in Roommate Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	2	20	22	4	24	28	5	23	28
row percentage	9.1	90.9		14.3	85.7		17.9	82.1	
column percentage	50.0	64.5		100.0	82.8		100.0	88.5	
total percentage	5.7	57.1	62.9	12.1	72.7	84.8	16.1	74.2	90.3
	Negative Reported Satisfaction								
cell count	2	11	13	0	5	5	0	3	3
row percentage	15.4	84.6		0	100.0		0	100.0	
column percentage	50.0	35.5		0	17.2		0	11.5	
total percentage	5.7	31.4	37.1	0	15.2	15.2	0	9.7	9.7
	Total Column Results								
total column count	4	31	35	4	29	33	5	26	31
total percentage	11.4	88.6	100.0	12.1	87.9	100.0	16.1	83.9	100.0

TABLE 13.--Female Patients' Reported Satisfaction as Related to Their Participation in Roommate Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	0	15	15	0	17	17	0	19	19
row percentage	0	100.0		0	100.0		0	100.0	
column percentage	0	68.2		0	81.0		0	95.0	
total percentage	0	68.2	68.2	0	81.0	81.0	0	95.0	95.0
	Negative Reported Satisfaction								
cell count	0	7	7	0	4	4	0	1	1
row percentage	0	100.0		0	100.0		0	100.0	
column percentage	0	31.8		0	19.0		0	5.0	
total percentage	0	31.8	31.8	0	19.0	19.0	0	5.0	5.0
	Total Column Results								
total column count	0	22	22	0	21	21	0	20	20
total percentage	0	100.0	100.0	0	100.0	100.0	0	100.0	100.0

at the six-month period is in fact up 14 percent over the three-month follow-up.

The pattern for men, however, is different. Table 14 shows that 69.2 percent of the men participated in roommate selection, while 30.8 percent chose not to. At the three-month interview period, 58.3 percent of those who chose their roommates were satisfied with the relocation, but by the six-month follow-up, this had dropped to 36.4 percent.

Their nonparticipation suggests that this is probably not an important consideration to the men, at least in the positive sense, and the fact that their overall level of satisfaction at the six-month period was down accentuates this finding.

Room Selection - Following relocation, the patients who exerted control over the selection of their room appeared to be satisfied with the move. Table 15 shows a steady increase in the percentage of patients who reported satisfaction and who also participated in the selection of their rooms.

This again may be a function of gender. Table 16 indicates that 95.5 percent of the women participated in selecting their rooms prior to the relocation, and that 76 percent of those individuals were satisfied with the relocation at the three-month follow-up period, with this percentage rising by the six-month interview.

On the other hand, 46.2 percent of the men participated in the selection of their rooms and while most reported satisfaction with the relocation in general, the highest percentage of the two groups of men who were satisfied was the one in which the patients did not

TABLE 14.--Male Patients' Reported Satisfaction as Related to Their Participation in Roommate Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	2	5	7	4	7	11	5	4	9
row percentage	28.6	71.4		36.4	63.6		55.6	44.4	
column percentage	50.0	55.6		100.0	87.5		100.0	66.7	
total percentage	15.4	38.5	53.8	33.3	58.3	91.7	45.0	36.4	81.8
	Negative Reported Satisfaction								
cell count	2	4	6	0	1	1	0	2	2
row percentage	33.3	66.7		0	100.0		0	100.0	
column percentage	50.0	44.4		0	12.5		0	33.3	
total percentage	15.4	30.8	46.2	0	8.3	8.3	0	18.2	18.2
	Total Column Results								
total column count	4	9	13	4	8	12	5	6	11
total percentage	30.8	69.2	100.0	33.3	66.7	100.0	45.6	54.5	100.0

TABLE 15.--All Patients' Reported Satisfaction as Related to Their Participation in Room Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	4	18	22	8	20	28	8	20	28
row percentage	18.2	81.8		28.6	71.4		28.6	71.4	
column percentage	50.0	66.7		100.0	80.0		100.0	87.0	
total percentage	11.4	51.4	62.9	24.2	60.6	84.8	25.8	64.5	90.3
	Negative Reported Satisfaction								
cell count	4	9	13	0	5	5	0	3	3
row percentage	30.8	69.2		0	100.0		0	100.0	
column percentage	50.0	33.3		0	20.0		0	13.0	
total percentage	11.4	25.7	37.1	0	15.2	15.2	0	9.7	9.7
	Total Column Results								
total column count	8	27	35	8	25	33	8	23	31
total percentage	22.9	77.1	100.0	24.2	75.8	100.0	25.8	74.2	100.0

TABLE 16.--Female Patients' Reported Satisfaction as Related to Their Participation in Room Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	0	15	15	1	16	17	1	18	19
row percentage	0	100.0		5.9	94.1		5.3	94.7	
column percentage	0	71.4		100.0	80.0		100.0	94.7	
total percentage	0	68.2	68.2	4.8	76.2	81.0	5.0	90.0	95.0
	Negative Reported Satisfaction								
cell count	1	6	7	0	4	4	0	1	1
row percentage	14.3	85.7		0	100.0		0	100.0	
column percentage	100.0	28.6		0	20.0		0	5.3	
total percentage	4.5	27.3	31.8	0	19.0	19.0	0	5.0	5.0
	Total Column Results								
total column count	1	21	22	1	20	21	1	19	20
total percentage	4.5	95.5	100.0	4.8	95.2	100.0	5.0	95.0	100.0

participate. This is shown in Table 17.

Again, it appears that room selection is not an important option for men, while it is for women. This may be a function of time with these particular individuals. Women seem to be exbibiting a common trend toward "nesting" while men have other defined interests.

Room Color Selection - Overall, following the relocation, people who assumed control over the selection of the color of their room were slightly more satisfied than those who did not. Table 18 shows the results for men and women. In general, room color selection does not appear to be one with which patients concerned themselves to a great extent, but their lack of participation in its choice does not seem to have affected their satisfaction with the relocation.

Once again, the results differ according to gender. Table 19 indicates that 86.4 percent of the women participated in the selection of the color of their room, and that following the move they were quite satisfied. The largest groups of women in the three-month and six-month follow-up interview periods were those who had chosen their room colors and were generally satisfied with the relocation.

Table 20 shows that 46.2 percent of the men chose the color of their room prior to relocation. Following the relocation, 33.3 percent who chose their room color reported satisfaction at the three-month interview period, but only 18.2 percent were in this group at the six-month follow-up. Again, it appears that the halo effect could be playing a part in this pattern of settlement.

Control over Other Aspects of the Environment - Because only two patients assumed control over their environments in ways other than roommate, room and room color selection, meaningful results for this

TABLE 17.--Male Patients' Reported Satisfaction as Related to Their Participation in Room Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	4	3	7	7	4	11	7	2	9
row percentage	57.1	42.9		63.6	36.4		77.8	22.2	
column percentage	57.1	50.0		100.0	80.0		100.0	50.0	
total percentage	30.8	23.1	53.8	58.3	33.3	91.7	63.6	18.2	81.8
	Negative Reported Satisfaction								
cell count	3	3	6	0	1	1	0	2	2
row percentage	50.0	50.0		0	100.0		0	100.0	
column percentage	42.9	50.0		0	20.0		0	50.0	
total percentage	23.1	23.1	46.2	0	8.3	8.3	0	18.2	18.2
	Total Column Results								
total column count	7	6	13	7	5	12	7	4	11
total percentage	53.8	46.2	100.0	58.3	41.7	100.0	63.6	36.4	100.0

TABLE 18.--All Patients' Reported Satisfaction as Related to Their Participation in Room Color Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	5	17	22	9	19	28	10	18	28
row percentage	22.7	77.3		32.1	67.9		35.7	64.3	
column percentage	50.0	68.0		90.0	82.6		100.0	85.7	
total percentage	14.3	48.6	62.9	27.3	57.6	84.8	32.3	58.1	90.3
	Negative Reported Satisfaction								
cell count	5	8	13	1	4	5	0	3	3
row percentage	38.5	61.5		20.0	80.0		0	100.0	
column percentage	50.0	32.0		10.0	17.4		0	14.3	
total percentage	14.3	22.9	37.1	3.0	12.1	15.2	0	9.7	9.7
	Total Column Results								
total column count	10	25	35	10	23	31	10	21	31
total percentage	28.6	71.4	100.0	30.3	69.7	100.0	32.3	67.7	100.0

TABLE 19.--Female Patients' Reported Satisfaction as Related to Their Participation in Room Color Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	1	14	15	2	15	17	3	16	19
row percentage	6.7	93.3		11.8	88.2		15.8	84.2	
column percentage	33.3	73.7		66.7	83.3		100.0	94.1	
total percentage	4.5	63.6	68.2	9.5	71.4	81.0	15.0	80.0	95.0
	Negative Reported Satisfaction								
cell count	2	5	7	1	3	4	0	1	1
row percentage	28.6	71.4		25.0	75.0		0	100.0	
column percentage	66.7	26.3		33.3	16.7		0	5.9	
total percentage	9.1	22.7	31.8	4.8	14.3	19.0	0	5.0	5.0
	Total Column Results								
total column count	3	19	22	3	18	21	3	17	20
total percentage	13.6	86.4	100.0	14.3	85.7	100.0	15.0	85.0	100.0

TABLE 20.--Male Patients' Reported Satisfaction as Related to Their Participation in Room Color Selection.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Control no	Control yes	Total	Control no	Control yes	Total	Control no	Control yes	Total
	Positive Reported Satisfaction								
cell count	4	3	7	7	4	11	7	2	9
row percentage	57.1	42.9		63.6	36.4		77.8	22.2	
column percentage	57.1	50.0		100.0	80.0		100.0	50.0	
total percentage	30.8	23.1	53.8	58.3	33.3	91.7	63.6	18.2	81.8
	Negative Reported Satisfaction								
cell count	3	3	6	0	1	1	0	2	2
row percentage	50.0	50.0		0	100.0		0	100.0	
column percentage	42.9	50.0		0	20.0		0	50.0	
total percentage	23.1	23.1	46.2	0	8.3	8.3	0	18.2	18.2
	Total Column Results								
total column count	7	6	13	7	5	12	7	4	11
total percentage	53.8	46.2	100.0	58.3	41.7	100.0	63.6	36.3	100.0

aspect of potential control cannot be reported here. The two patients who did exert control in ways other than those suggested by the ICMCF were discussed earlier: one helped select the paintings for the public areas of the facility, while another helped determine the eventual size of the single patient rooms by maneuvering his electric wheelchair within an outlined area, the size of which was later enlarged to reflect his movement.

Research Question 5: Is there an identifiable pattern in the number of changes in the physical environment that elderly institutionalized patients can experience before their mortality, morbidity, or satisfaction will be influenced?

Patient Mortality - Because of the small number of patients who died during the period of this study (n = 5), a definitive statement cannot be made. However, it was found that those patients who did not survive noticed significantly fewer changes in their immediate physical environments than those who survived, as shown in Table 21.

TABLE 21.--Average Number of Changes Noted in the Pre- and Post-Relocation Immediate Physical Environments by Survivors and Nonsurvivors.

	Average number of changes noticed
survivors	7.66
nonsurvivors	4.75

The five patients who died following the relocation were assessed to be in poorer health than those who survived. Four of them were quite physically dependent upon the staff, as measured by their ADL scores, while one scored at the mean of the survival group. It is possible that the physical or mental condition of the patient and the

accompanying medical care would detract from the patients' realization of the physical environment at this point.

Patient Morbidity - Patient Morbidity, as indicated by ADL scores, appears to be affected by the relocation when it is cross-tabulated with the total number of relocation changes that were perceived by the patient. Patient morbidity did not change appreciably between the pre-move and the three-month follow-up periods, but did improve by an overall 7.6 percent by the six-month follow-up visit (see Table 22). The frequency counts indicate that prior to the move, twenty-three patients were ranked in the lower half of the ADL scale (they were more physically dependent), and at the three-month follow-up twenty-four were ranked as being dependent. But, by the six-month interview period, this number had decreased to eighteen.

Statements about the classification of ADL scores and the physical environmental changes perceived by the patients are necessary here. Again, to produce an accumulation of scores that might descriptively discriminate the sample, the distribution of patients was "collapsed." The decision was made to divide the possible categories of the ADL at their midpoint, and to arbitrarily call A - D the "upper" or more independent patients, and E - Other, the "lower" or more dependent patients. Similarly, the highest number of physical environmental changes noticed by any patient was fourteen, and this number was divided at its midpoint, with the perception of fewer than seven changes arbitrarily called "fewer" and the perception of seven or more changes "more."

Patient Morbidity as Related to Gender - Because of the small cell sizes, conclusive results of the influence of total changes upon

TABLE 22.--All Patients' ADL Scores as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	ADL Scores E-Other (Lower half)								
cell count	7	16	23	8	16	24	5	13	18
row percentage	30.4	69.6		33.3	66.7		27.8	72.2	
column percentage	53.8	72.7		61.5	72.7		45.5	65.0	
total percentage	20.0	45.7	65.7	22.9	45.7	68.6	16.1	41.9	58.1
	ADL Scores A-D (Upper half)								
cell count	6	6	12	5	6	11	6	7	13
row percentage	50.0	50.0		45.5	54.5		46.2	53.8	
column percentage	46.2	27.3		38.5	27.3		54.5	35.0	
total percentage	17.1	17.1	34.3	14.3	17.1	31.4	19.4	22.6	41.9
	Total Column Results								
total column count	13	22	35	13	22	35	11	20	31
total percentage	37.1	62.9	100.0	37.1	62.9	100.0	35.3	64.5	100.0

the morbidity of men are tentative, but a certain trend was noted (see Table 23). Following the move, the percentage of males in the more dependent half of the ADL scale was up approximately 23 percent, and at the six-month follow-up had lowered 8.3 percent. This appears to indicate that as time went on, the mens' physical independence was impaired.

On the other hand, the female patients appeared to have benefitted from the relocation in this respect. Table 24 shows that the percentage of women who were in the upper half of the ADL scores increased in each successive interview period. The more accessible environment may be encouraging the women to become more independent. For example, the fact that clothing storage is now located in their own rooms rather than in the hallway may facilitate the task of dressing, a consideration in the ADL. Also, the proximity of the toilet now encourages its use as opposed to when the patients were required to use community toilet facilities located off the hallways in the old structure.

Another explanation may exist in the change of the physical environment alone. The more pleasant surroundings, as suggested by several subjects, makes the patients feel better about where they now live. Since the ADL is not solely a measure of physical capability but also considers the sociological desire of the patients to complete a task, the motivation provided by the new environment could also account for their increased independence.

Patient Satisfaction - Patients who perceived more changes in their immediate physical environments reported a higher level of satisfaction following the relocation. Table 25 illustrates a 31.2

TABLE 23.--Male Patients' ADL Scores as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	ADL Scores E-Other (Lower half)								
cell count	1	6	7	3	7	10	1	6	7
row percentage	14.3	85.7		30.0	70.0		14.3	85.7	
column percentage	25.0	66.7		75.0	77.8		33.3	75.0	
total percentage	7.7	46.2	53.8	23.1	53.8	76.9	9.1	54.5	68.6
	ADL Scores A-D (Upper half)								
cell count	3	3	6	1	2	3	2	2	4
row percentage	50.0	50.0		33.3	66.7		50.0	50.0	
column percentage	75.0	33.3		25.0	22.2		66.7	25.0	
total percentage	23.1	23.1	46.2	7.7	15.4	23.1	18.2	18.2	36.4
	Total Column Results								
total column count	4	9	13	4	9	13	3	8	11
total percentage	30.8	69.2	100.0	30.8	69.2	100.0	27.3	72.7	100.0

TABLE 24.--Female Patients' ADL Scores as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	ADL Scores E-Other (Lower half)								
cell count	6	10	16	5	9	14	4	7	11
row percentage	37.5	62.5		35.7	64.3		36.4	63.6	
column percentage	66.7	76.9		55.6	69.2		50.0	58.3	
total percentage	37.3	45.5	72.7	22.7	40.9	63.6	20.0	35.0	55.0
	ADL Scores A-D (Upper hald)								
cell count	3	3	6	4	4	8	4	5	9
row percentage	50.0	50.0		50.0	50.0		44.4	55.6	
column percentage	38.3	23.1		44.4	30.8		50.0	41.7	
total percentage	13.6	13.6	27.3	18.2	18.2	36.4	20.0	25.0	45.0
	Total Column Results								
total column count	9	13	22	9	13	22	8	12	20
total percentage	40.9	59.1	100.0	40.9	59.1	100.0	40.0	60.0	100.0

TABLE 25.--All Patients' Reported Satisfaction as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	Positive Reported Satisfaction								
cell count	10	11	21	7	21	28	10	18	28
row percentage	47.6	52.4		25.0	75.0		35.7	64.3	
column percentage	83.3	50.0		63.6	95.5		83.3	94.7	
total percentage	29.4	32.4	61.8	21.2	63.6	84.3	32.3	58.1	90.3
	Negative Reported Satisfaction								
cell count	2	11	13	4	1	5	2	1	3
row percentage	15.4	84.6		80.0	20.0		66.7	33.3	
column percentage	16.7	50.0		36.4	4.5		16.7	5.3	
total percentage	5.9	32.4	38.2	12.1	3.0	15.2	6.5	3.2	9.7
	Total Column Results								
total column count	12	22	34	11	22	33	12	19	31
total percentage	35.3	64.7	100.0	33.3	66.7	100.0	38.7	61.3	100.0

percent improvement for this group at the three-month follow-up, with a 5.5 percent reduction in that percentage at the six-month follow-up. Only one of these patients eventually reported dissatisfaction with the new environment.

Conversely, among the patients perceiving fewer than seven changes in the physical environment, a relatively small 2.9 percent change in their positive satisfaction was indicated between the pre-move and the six-month follow-up periods. However, an 8.2 percent reduction in environmental satisfaction was noted at the three-month follow-up period. The fact that this loss was more than recovered by the six-month follow-up is worthy of note, indicating that this group appears to have benefitted from the relocation over time.

It would appear then that the patients who noticed at least the median number of changes were more satisfied following their relocation. Judging from their reported dissatisfaction with the old ICMCF environments, these individuals would seem to be those who are more discriminating in the evaluation of their environment, thereby also being those more likely to respond to a drastic improvement in their surroundings.

Patient Satisfaction as Related to Gender - Prior to the relocation, 50 percent of the male patients reported dissatisfaction with their immediate physical environments, with those patients who eventually perceived more changes in the environment accounting for 66.7 percent of the dissatisfaction. Following the move, 41.7 percent more of the men reported satisfaction with their surroundings with those noticing the greater number of changes accounting for most of the satisfaction. At the six-month follow-up, 81.8 percent of all

males reported satisfaction with their environment, a decrease from the three-month interview but still an overall positive change in satisfaction. However, among those males perceiving the most changes in the physical environment, four percent fewer reported satisfaction at the six-month follow-up than did at the three-month interview.

The male patients perceiving the median or greater changes appear to be more reactionary toward the relocation than those noticing fewer than the median (see Table 26). However, the low number of patients in the cells, particularly in those where patients perceived fewer than the median changes precludes definitive comment.

Among the females, general overall satisfaction was reported at each interview period, suggesting that the possible halo effect present with the men at the three-month follow-up probably was not a factor. Table 27 indicates that the women responded in a less reactionary fashion than did the men, but eventually more proved to be satisfied with the relocation. It appears that the women required more time in order to express satisfaction with their environments. Again, the patients who perceived seven or more environmental changes reacted more to the relocation than those noticing fewer than seven. Discussions with women at the six-month interview period revealed that although the ICMCF still was not "home," they generally made more positive comments about their living accommodations than they had at the three-month follow-up.

Research Question 6: Are there some types of physical environmental changes that are perceived by the patient during an institutional relocation that will contribute more to an elderly patient's mortality, morbidity, or satisfaction?

TABLE 26.--Male Patients' Reported Satisfaction as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	Positive Reported Satisfaction								
cell count	1	5	6	2	9	11	2	7	9
row percentage	16.7	83.3		18.2	81.8		22.2	77.8	
column percentage	33.3	55.6		66.7	100.0		66.7	87.5	
total percentage	8.3	41.7	50.0	16.7	75.0	91.7	18.2	63.6	81.8
	Negative Reported Satisfaction								
cell count	2	4	6	1	0	1	1	1	2
row percentage	33.3	66.7		100.0	0		50.0	50.0	
column percentage	66.7	44.4		33.3	0		33.3	12.5	
total percentage	16.7	33.3	50.0	8.3	0	8.3	9.1	9.1	18.2
	Total Column Results								
total column count	3	9	12	3	9	12	3	8	11
total percentage	25,0	75.0	100.0	25.0	75.0	100.0	27.3	72.7	100.0

TABLE 27.--Female Patients' Reported Satisfaction as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	Positive Reported Satisfaction								
cell count	9	6	15	5	12	17	8	11	19
row percentage	60.0	40.0		29.4	70.6		42.1	57.9	
column percentage	100.0	46.2		62.5	92.3		88.9	100.0	
total percentage	40.9	27.3	68.2	23.8	57.1	81.0	40.1	55.0	95.0
	Negative Reported Satisfaction								
cell count	0	7	7	3	1	4	1	0	1
row percentage	0	100.0		75.0	25.0		100.0	0	
column percentage	0	53.8		37.5	7.7		11.1	0	
total percentage	0	31.8	31.8	14.3	4.8	19.0	5.0	0	5.0
	Total Column Results								
total column count	9	13	22	8	13	21	9	11	20
total percentage	40.9	59.1	100.0	38.1	61.9	100.0	45.0	55.0	100.0

TABLE 27.--Female Patients' Reported Satisfaction as Related to Total Number of Changes Perceived in the Physical Environment.

	Prior to relocation			Three-month follow-up			Six-month follow-up		
	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total	Changes <7	Changes ≥7	Total
	Positive Reported Satisfaction								
cell count	9	6	15	5	12	17	8	11	19
row percentage	60.0	40.0		29.4	70.6		42.1	57.9	
column percentage	100.0	46.2		62.5	92.3		88.9	100.0	
total percentage	40.9	27.3	68.2	23.8	57.1	81.0	40.1	55.0	95.0
	Negative Reported Satisfaction								
cell count	0	7	7	3	1	4	1	0	1
row percentage	0	100.0		75.0	25.0		100.0	0	
column percentage	0	53.8		37.5	7.7		11.1	0	
total percentage	0	31.8	31.8	14.3	4.8	19.0	5.0	0	5.0
	Total Column Results								
total column count	9	13	22	8	13	21	9	11	20
total percentage	40.9	59.1	100.0	38.1	61.9	100.0	45.0	55.0	100.0

Patient Mortality - Again, the low number of deaths following the relocation inhibits the reporting of findings in this area, but several commonalities were noted among the changes that were perceived by the patients.

It should be pointed out that one of the five patients who died did so before the three-month follow-up. Of the four who survived beyond that re-interview, all of them reported perceiving positive changes in their room storage space. Three of the four commented positively on the closer accessibility of the toilet facilities in the new ICMCF, the presence of a television in their room, the amount and type of space available for the display of personal objects, and the fewer number of roommates assigned to each at the new facility. However, these same four patients did not perceive the room size, room color, floor color, or furniture style as having undergone changes following the relocation.

Patient Morbidity - The data gathered was not of a sufficiently specific type to adequately correlate physical environmental changes to patient morbidity. It was concluded that a measure other than the ADL might have provided more workable data.

Patient Satisfaction - Seventeen different characteristics of the patients' immediate physical environment were investigated. They were: room size, the floor level location of the room; accessability to the toilet facility; the orientation of the room (facing north, south, east or west); the view from the window; window treatment; room color; floor treatment; furniture style; relative noise level in the room; presence of a television; presence of a radio; storage

space available; space available for the display of personal objects; and the number of roommates that the patient had.

The patients gave more positive ratings to every aspect of the new ICMCF except when considering "room orientation." Figure 6 illustrates the patients' overall positive reactions to the "before" and "after" environments, and discloses four specific room features that met with the positive satisfaction of at least 75 percent of the patients: 1) accessibility to the toilet facility; 2) storage space in the room; 3) the current number of roommates; and 4) the noise level in the room. Two other factors, the floor level and the size of the window, were mentioned positively by at least 60 percent of the respondents. All of these environmental aspects received from 35 to 73 percent positive approvals when compared to their counterparts in the "before" environment.

Figure 7 illustrates that the patients almost unanimously found every aspect tested to be more satisfactory in the new building, with the exception of "room orientation."

Patient Satisfaction as Related to Gender - The aspects of the environment that were mentioned most frequently by the men following relocation were: 1) the accessibility to the toilet facility; 2) storage space in the room; 3) the number of roommates; and 4) having a television in their room. These factors received up to 83 percent more positive reactions than their counterparts in the old facility. Figure 8 illustrates the positive reactions of the men to the areas in question in their "before" and "after" environments.

Figure 8 indicates two areas that apparently did not concern these men highly: the view from their window and the style of their

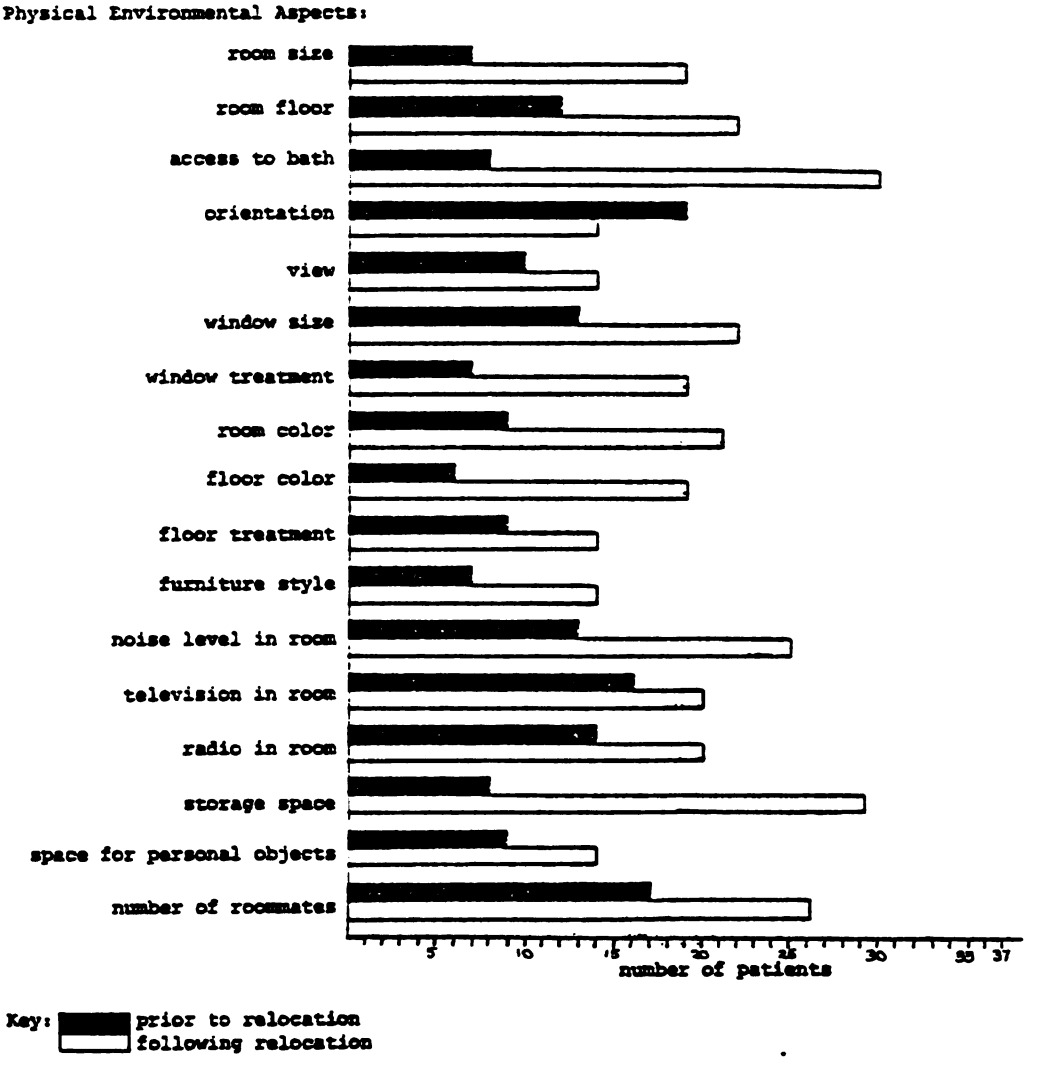

FIGURE 6.--All Patients' Positive Perceptions of Physical Environmental Aspects Prior to and Following Relocation.

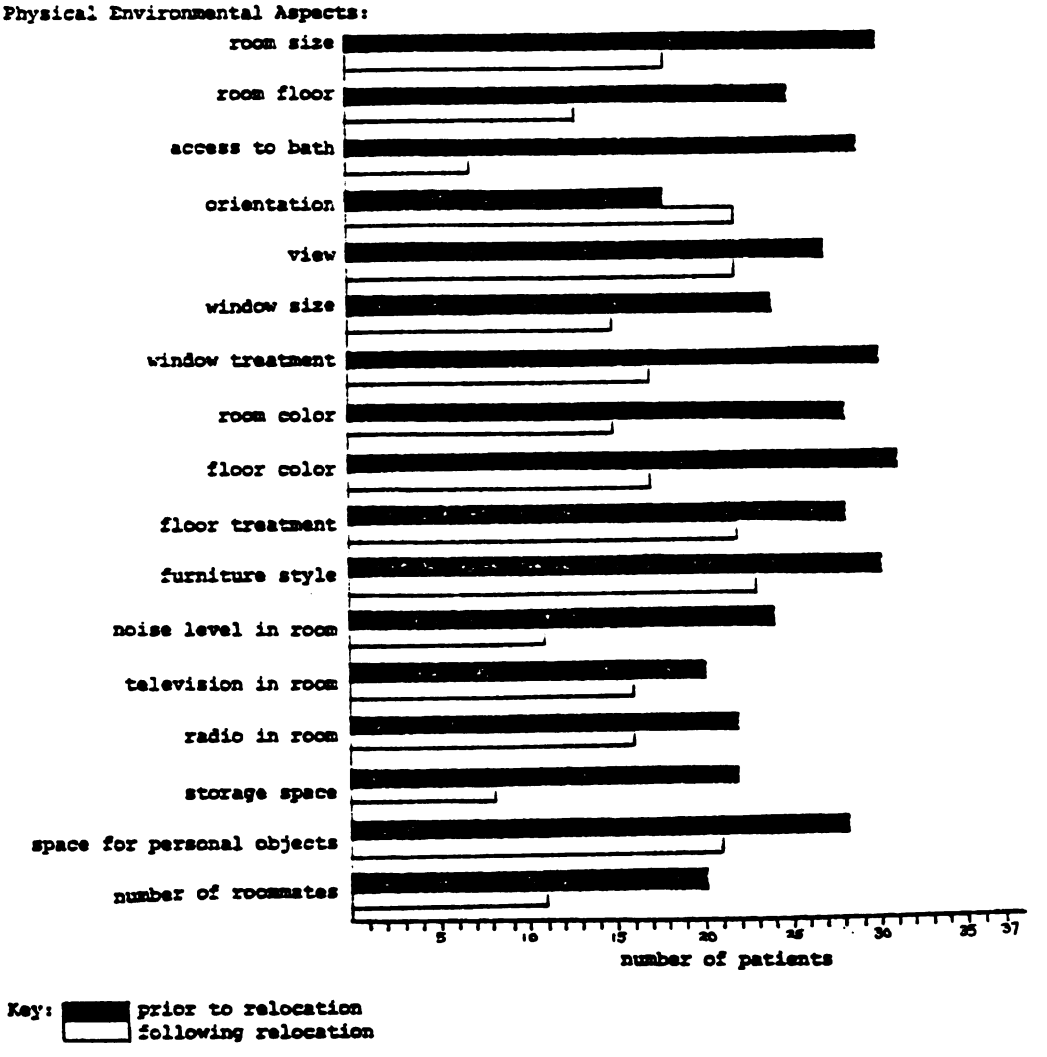

FIGURE 7.--All Patients' Negative Perceptions of Physical Environmental Aspects Prior to and Following Relocation.

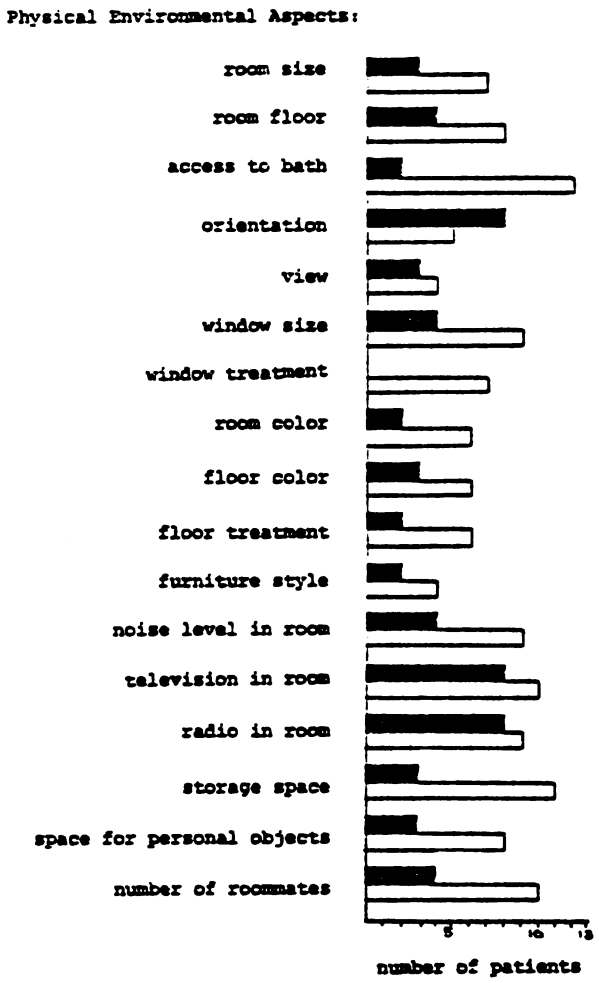

FIGURE 8.--Male Patients Positive Perceptions of Physical Environmental Aspects Prior to and Following Relocation.

furniture. It may be that their apathy toward these two environmental aspects is a function of the amount of time these men were found to spend in their rooms. Generally speaking, men were not in their rooms when they were visited, and visitations for the purpose of interviewing were conducted at varying times of the morning and afternoon in the dining rooms. In addition, most of the mens' rooms were quite lacking in decoration. It appeared to the researcher that no one lived in these rooms. Yet, overall satisfaction with the amount of space available for displaying personal objects and general storage space indicates that in their estimation adequate room existed for the placement of personal objects.

It was interesting to note that although such environmental aspects as window treatment received no positive reactions prior to the move from the men, it met with the satisfaction of 54 percent of them following the relocation. It should be mentioned that prior to the move, window treatments consisted of old, yet clean and working window shades and lightweight, solid-color curtains. In the new facility, the windows had brightly printed draperies which were made to fit the windows precisely. This finding indicates that men will respond favorably to an aspect of the environment that is "decorative" and colorful as this one proved to be.

Figure 9 shows the negative reactions that men had towards their environments. This chart suggests that most men were quite dissatisfied with the "before" environment, and expressed fewer negative comments in the new building. Men responded least about furniture style, the view from their room, the orientation of their room, the size and color of their room, and the floor level on which the room

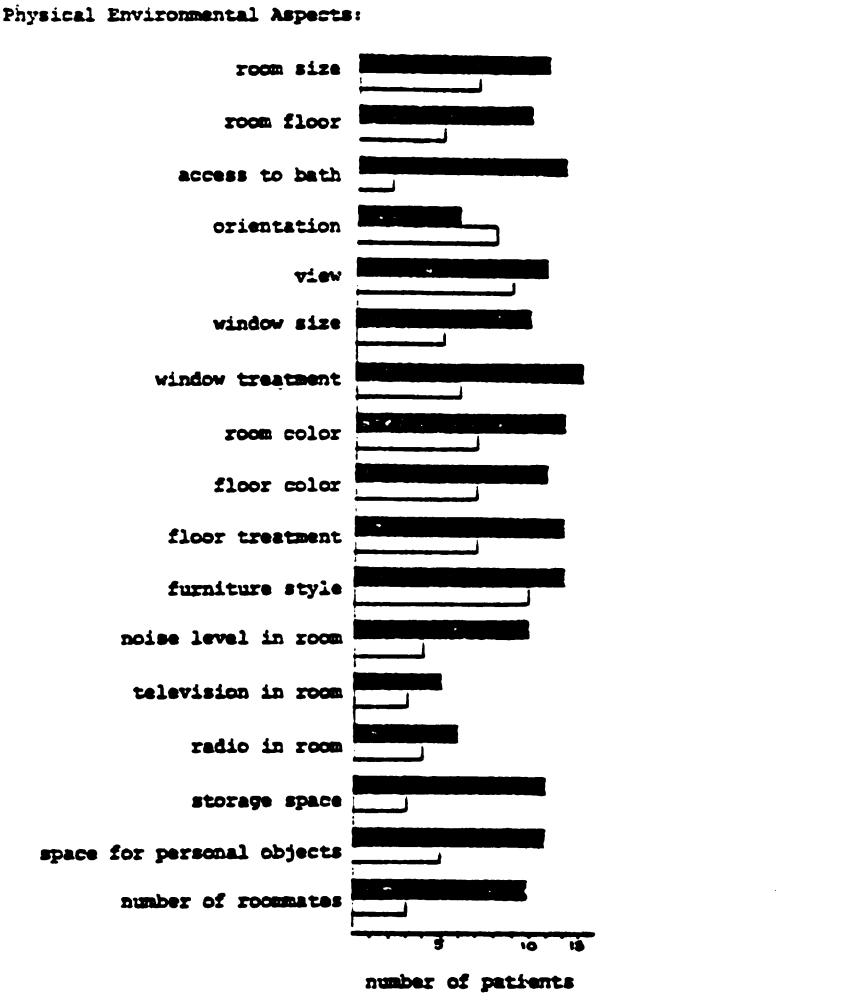

FIGURE 9.--Male Patients Negative Perceptions of Physical Environmental Aspects Prior to and Following Relocation.

was located.

Womens' positive reactions to the "before" and "after" environments are shown in Figure I0. Five specific factors received positive comments from at least 65 percent of the women. They were: 1) accessibility to the toilet facility; 2) storage space in the room; 3) the noise level in the room; 4) the fewer number of roommates; and 5) the color of their room.

Figure 11 shows that at least 65 percent of the women expressed a negative opinion concerning the orientation of their room, the floor treatment, and the space they had for their personal objects.

The first three choices for both men and women were almost identical. Women mentioned the noise level in the room (i.e.: by their admission, having a quiet room) more frequently than the men did and more often indicated not wanting or liking radios or televisions in their rooms.

Interestingly, this preference may have influenced the women's performance on the MSQ, an instrument which tests for mental alertness and includes a few questions that are tied to the news media. On the average, men scored higher on their MSQs than did the women. When looking at questions asking: "Who is the president of the United States now?" and "Who was the president before him?" it is logical to assume that the people who enjoy and regularly watch television or listen to the radio would be more likely to answer them correctly. Also, help with knowing the right month and day of the week, questions also asked on the MSQ, may come from these sources.

To corroborate this notion, the researcher noticed that the men in this study were often seen reading newspapers and magazines,

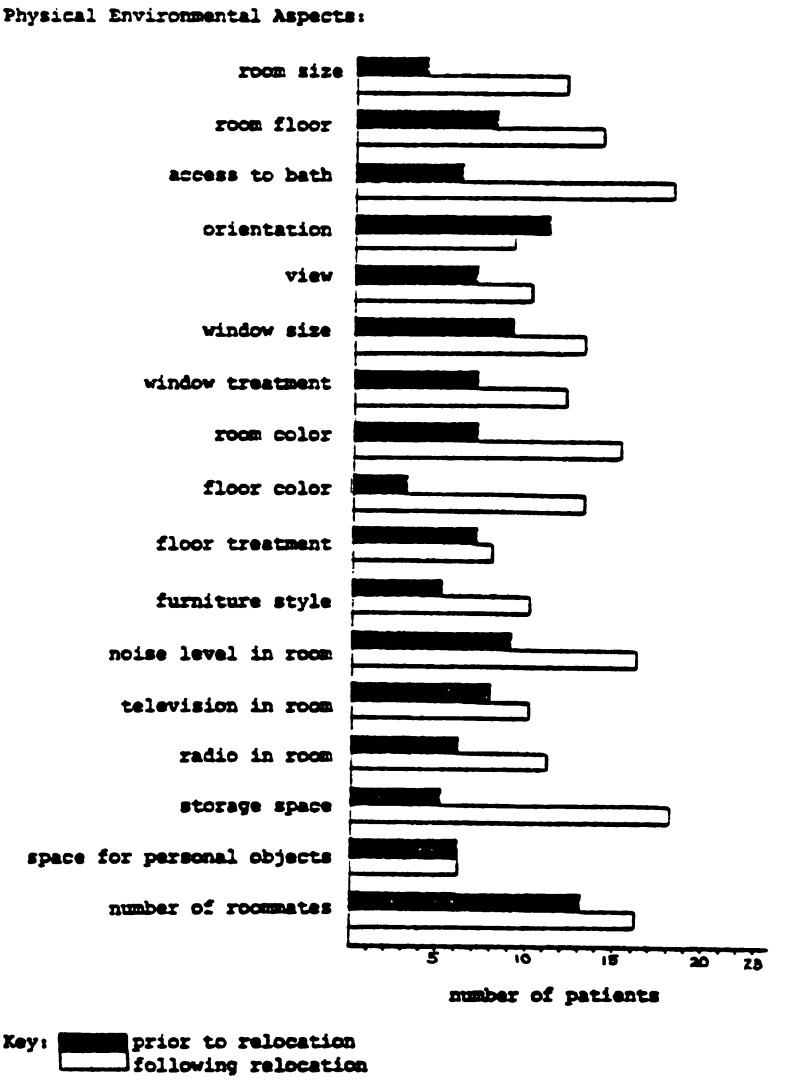

FIGURE 10.--Female Patients Positive Perceptions of Physical Environmental Aspects Prior to and Following Relocation

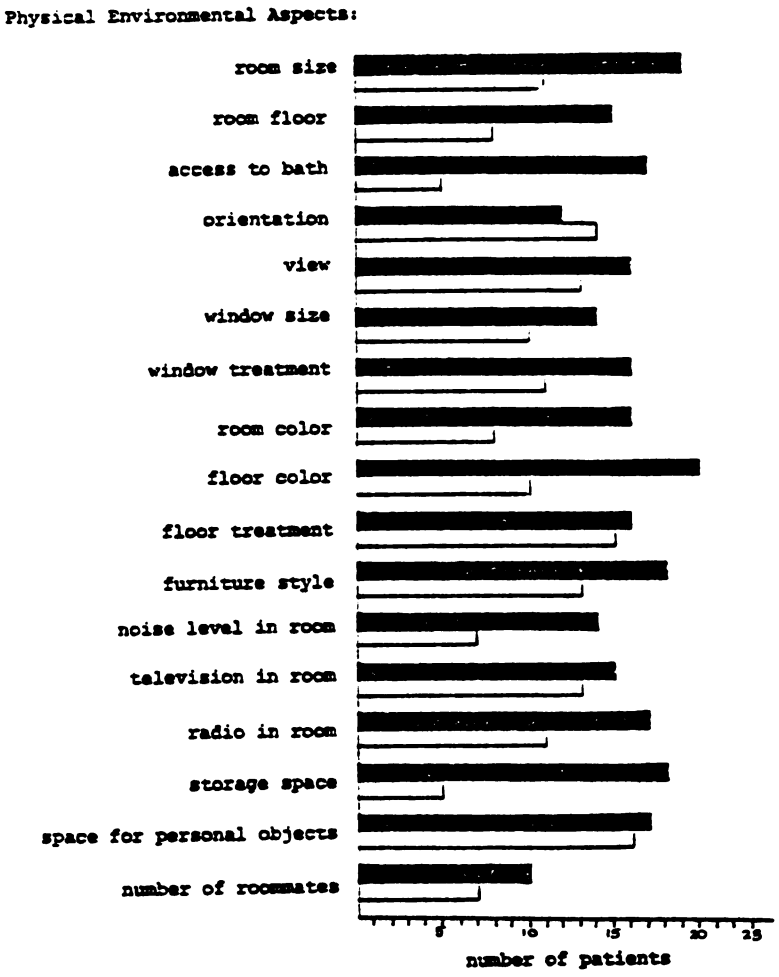

FIGURE 11.--Female Patients Negative Perceptions of Physical Environmental Aspects Prior to and Following Relocation.

while if women read, they were occupied with novels. Mostly, the women said they enjoyed doing handwork. This trend is believed to be both time and culture bound. According to the ICMCF records, the women in this study spent most of their adult lives being housewives, not working outside of the home. Now, at the ICMCF, they can often be found in their rooms making objects with their hands or reading a short novel. They look forward to attending activities classes where they learn to make more handicrafts, often items to give as gifts. The men in this study, on the other hand, were from working backgrounds of physical labor for the most part, and, as such, were not used to spending much time around the house. Consequently, upon arriving at the point in life where they are more or less confined indoors with no "work" to do, they often were found rattling around the hallways looking for something with which to occupy themselves. Thus, for men, the "leisurely" life of the medical care facility appears to be a more difficult one to adjust to than for the women.

Summary

In general, the results show that more patients expressed satisfaction with the physical environment following the relocation than prior to the move. In particular, the patients who were more alert, as indicated by MSQ scores of six or above, reported a more positive level of satisfaction following the relocation than those who scored five or less on the questionnaire. Additionally, the patients who noticed more changes in the physical environment were more likely to survive the relocation and were also more apt to express satisfaction with their new surroundings than were those noticing fewer changes.

Overall results indicate that females survived the relocation with considerably more expressed satisfaction than did the males. Based on their rates of participation and subsequent levels of satisfaction, it would appear that the categories of choice available to the patients had more meaning to the women than to the men. The mens' lack of participation in this area supports this finding. Quite conclusively, the individuals who exerted more control in the selection of roommate, room, and room color were more satisfied following the relocation, and these individuals were overwhelmingly female.

The aspects of the physical environment that were the most highly regarded by the patients were, in order of preference: 1) accessibility to the toilet facility; 2) storage space in the room; 3) current number of roommates; and 4) the noise level in the room. These preferences were quite consistent for both males and females. Overall, sixteen of the seventeen physical environmental aspects tested for in the study received more favorable reactions in the new building than did their counterparts in the old structure.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary and Conclusions

The purpose of this study was to learn whether changes in the actual physical environment would affect patients involved in an institutional relocation by uncovering meaningful linkages between the dependent variables (nonsurvival, survival, and satisfaction) and the independent variables (mental status, physical health, amount and type of physical environmental control exerted prior to relocation, and number and type of physical environmental changes perceived). Data were gathered primarily through the use of three instruments. The Activities of Daily Living Scale (ADL) provided a measure of the patients' sociobiological functioning in six areas: bathing, dressing, toileting, transfer, continence, and feeding. The Mental Status Questionnaire (MSQ) determined the patients' alertness to time, place and person. The Physical Environmental Checklist (PEC) collects objective information describing the physical aspects of the patients' rooms as well as subjective reactions of the patients' satisfaction with them.

Permission from the ICMCF was obtained following a verbal description of the objectives and scope of the project, along with assurances that its execution would not interfere with the operation of the ICMCF. An ICMCF administrator and social worker aided in subject selection, ADL administration, and also provided general information concerning the ICMCF throughout the study. Data from the

facility's files provided the desired demographic information. The social worker participating with the researcher supplied details concerning the amount and type of physical environmental control assumed by each patient.

The patients were interviewed three times: the first time prior to the relocation, the second time three months following the relocation, and the third time six months following the relocation. The first and second interviews included the administration of the MSQ and the entire PEC. Because the objective section of the PEC did not change for the patients by the time of the six-month follow-up, the third patient interview consisted of the MSQ and only the subjective section of the PEC. The nursing staff completed the ADL forms at each interview period. Field notes provided additional insight.

Data analysis consisted of crosstabulation of the dependent and independent variables to shed light on which factors appeared to affect the subjects, and which were hence deserving of further study beyond this exploratory stage of investigation.

Six questions guided the research:

1. Are patients who are more mentally alert, as measured by the Mental Status Questionnaire, more likely to survive relocation than those who are shown to be less alert?

2. Are the more mentally alert patients, as measured by the Mental Status Questionnaire, more likely to be satisfied with their new environments?

3. Do patients who exert control (option of choice) over their new environments prior to relocation survive relocation better than those who do not?

4. Are patients who exert control (option of choice) over their new environments prior to relocation likely to be more satisfied following relocation?

5. Do the number of physical environmental changes, as

perceived by the patient during an institutional relocation contribute to the elderly institutionalized patients' mortality, morbidity, or satisfaction?

6. Are there some types of physical environmental changes that are perceived by the patient during an institutional relocation that will contribute more to the elderly patients' mortality, morbidity, or satisfaction?

The analyses of the data provided insights into institutional relocation that prove valuable to the topic. In general, it was found that women were more likely to become satisfied with the relocation as time went on than were the men. This corroborates the research of Markson and Cumming (1974), and Lawton and Yaffe (1970), but, to a degree, contradicts the findings of Pastalan and Bourestom (1975), who reported that men reacted better to relocations. However, the results cited by Pastalan and Bourestom are based upon a "radical" change in the environment, with the patients undergoing total changes in setting, staff, program and resident population. The present study dealt with a drastic change in the physical environment only, not the social environment, which must be taken into account. This type of change is classified as "moderate" by Pastalan and Bourestom.

This finding further disputes the research of Markus et al (1972) who found no significant differences in the gender of patients with regard to their relocation reaction. The present study clearly shows that the women studied were more suited to life in the institution before and after the move, and their survival and satisfaction rates following the move imply their positive readjustment. On the other hand, the findings indicate that extensive research be done in the case of mens' institutionalization. Jacobs has suggested that mens' changes in role, self-image, physical capability, and

physical and social needs are more serious than those of women of a comparable age. She lists three guidelines whose following enhance senior center programs for men, whose following is also recommended for medical care facilities: "1) recognition of individual differences; 2) identification of needs and interests; 3) concern for continuing growth and development of the individual" (1974, p. 1).

As time goes on, the importance of creating environments in which both men and women can survive and be satisfied will continue to increase in importance. Supportive living environments must be investigated to a fuller extent in order to continue the efforts to provide more habitable institutional space for those who need it. Gelwicks and Newcomer say that "what is implied here is emphasis on health rather than illness, adaptability rather than decrement, and individuality rather than conformity" (1974, p. 51).

It is noted that the findings reported in this study are time and society bound. That is to say, the individuals studied here are of a particular age and socioeconomic background, and their response to the institutional environment noted here may be contingent upon those factors. Thus, the successful relocation of these patients has required the in-depth study of them in particular. Realistically, the planning of medical care facilities, unfortunately, cannot consider each individual patient, but the observation and inclusion of overall societal trends and characteristics in their planning is a necessity. For example, medical care facilities in various locations could be expected to house individuals from varying backgrounds, and their design must support their corresponding interests, values, and needs.

At the present time, as indicated in this study, women who spent most of their lives in the home seem to be best suited to the institutional environment. People used to working outside of the home, such as the men studied here, have not been as adequately prepared for their present life. The introduction of individuals with professional backgrounds should provide a challenge to the planners of such facilities, and must be investigated.

The concept emphasized by this observation is that medical care facilities, as well as most physical construction, should be planned to accommodate future planned or unplanned additions and modifications, as well as have flexibility built within the original structure to satisfy need changes by the users.

Findings related to the actual physical environment shed some light on factors within the patients' immediate surroundings that are felt to be of importance in the determination of satisfaction. Overall, the patients responded favorably to the new environment, indicating satisfaction with all but one factor tested for, that being room orientation. Accessibility to the toilet, noise level in the room, storage space, and the number of roommates that the patient had received positive ratings of at least sixty-five percent of the respondents.

The factors tested for were of a more specific nature than those studied by Borup, Gallego and Heffernan (1978) and thus reveal more of the patients' feelings about the environment over which he or she has the most control. Since so little information of this type has been collected, the findings should aid in the design of future medical care facilities, especially as these buildings become

acknowledged as being places for living with dignity, not just places for the treatment of acute and chronic illness.

In addition to studying the patients' immediate environments, the areas of auxiliary interest to the patients also deserve consideration: spaces supporting formally planned activities by the staff, and areas that accommodate individualized and group informal activities. It can be concluded that the patients' impressions of the facility as a whole may be a function of this. For example, the amount of time a patient spends in his or her room may depend, in part, upon the environmental support the patient receives from the facility. It is logical to assume that a patient's satisfaction with his or her room is contingent upon the amount of time he or she spends in the room: the more time spent in the room because of a lack of interesting alternative spaces, the less the satisfaction with the room itself and the facility in general.

Mental alertness, as reflected in the patients' Mental Status Questionnaire scores, played an important part in patient satisfaction levels. Those who scored higher on the MSQ tended to be more satisfied with the relocation, and they also generally noticed more changes as having taken place. It appears that these patients showed more of an interest in the relocation process, and that the creation of interest in the patient is a desirable preparatory step in the pre-move period.

The exercise of control options by the patients seems to have had a positive effect upon those individuals who took advantage of them. In this study, women participated in the selection of their roommates, room, and room color considerably more than did the men,

and, by the six-month follow-up, were more satisfied with each category in their new environment. This corroborates much of the locus of control research. Wolk (1976) reported that individuals with internal locus of control correlated positively with a positive life-style, and are usually able to achieve a higher level of adaptation to the new environment. Kahana and Kahana (1975) and Wolk and Kurtz (1975) found similar results. However, the extreme differences in the trends shown by the men and women in the present study warrant serious consideration in the future planning efforts of pre-relocation preparation programs, especially for the men.

This study found that, at least for the categories of control available to the patients (selection of roommate, room, and room color), participation by men did not appear to increase their satisfaction with the new environment, whereas it did with women. The introduction of alternate control options for men, and indeed, for women in the future as traditional male/female roles become less defined, should help improve patient satisfaction. However, the results of this research indicate an acute and immediate need to study men's roles and lifestyles in institutions such as this. Their satisfaction, and, even more important, their survival, depends upon it.

Encouraging patients to assume control over their own lives, especially when in an essentially dependent situation as the one described here, should be continued and expanded. The literature and results of this study indicate that people benefit from such interest. It is reasonable to assume that, given an increased range of choice, both sexes will report improved satisfaction with their living

environments as a result of their participation. Such activity would help fulfill the human need for belonging, the feeling that one can influence one's environment: that however one chooses to personalize his or her environment will be respected by others. Changing the medical care facility community into a "neighborhood" of auxiliary patient homes instead of a series of transient "hotel rooms" should also be encouraged as a reinforcement to the amount of control assumed by the patient, especially to encourage privacy within such a facility, an aspect of institutional life that is sorely lacking. Koncelik's (1976), and Gelwicks and Newcomer's (1974) feelings toward medical care facilities were basically reasserted in this study.

The fact that most patients participated in the extensive pre-relocation preparation program did not contribute to the overall mortality rate, which did not differ from the same periods during the year preceding the relocation and the year of the relocation. Table 28 shows the comparison.

Improving the predictability of the new environment for the patients had a positive impact upon them. In interviews prior to the relocation, many patients indicated that through visitation to the new facility, they knew about their future "homes." Judging from the reported patient satisfaction, the unchanged mortality rate, and the improved ADL scores for the women, the communication program with the patients and their families prior to the move did not hurt their chances for survival or satisfaction, and it appears to have been somewhat beneficial. Similar results were noted by Pastalan and Bourestom (1975), Aldrich and Mendkoff (1963), Palmore and Luikart (1972), and Schultz and Brenner (1977). However, this finding does not

TABLE 28.--Comparison of Mortality Rates at the ICMCF for the Year Preceding the Relocation (1977-78) and the Year of the Relocation (1978-79).

	Month																							
Year	June		July		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1977-78	3	2%	5	3%	2	1%	5	3%	4	2%	9	5%	4	2%	3	2%	7	4%	11	6%	4	2%		
1978-79	6	3%	3	2%	5	3%	4	2%	5	2%	8	4%	10	5%	3	2%	10	5%	7	3%	5	3%	2	1%

substantiate those of Borup, Gallego and Heffernan (1978), and Kowalski (1978).

Communication with patients in relocation situations must be of a close, considerate manner, and cannot be emphasized enough. The apprehension exhibited by the patients in this study in formal and informal conversations regarding the move, both before and after, indicates that they need a listening ear: someone who will just listen and try to allay their fears. In this case, the ICMCF did encourage their staff to do this, and for many patients it appeared to help. But, some patients required extra consideration, and others were unsure of what the official staff told them. It might be the case that the less alert patients are especially in need of this type of communication. It may be the difference between understanding what the relocation is for, and hence the difference between nonsurvival, survival, and satisfaction following a relocation.

Generally, it does appear that the degrees of change, pre-relocation preparation, choice (both available to and exerted by the patient), physical health, and any combination of these factors, as noted by Pablo (1977) are the most influential of the traditionally studied factors associated with relocation. From this ICMCF study, patient satisfaction with the physical environment, and how this factor can aid in the relocation process, appears to be a valuable addition to the list of concerns, particularly considering the design of such facilities in the future.

Ten hypotheses have been suggested from the findings of this study, and have been grouped into two categories: primary and secondary.

Primary:

1. There is an identifiable significant range in the number of changes in the physical environment that elderly institutionalized patients can experience before their mortality will be influenced.

2. There is an identifiable significant range in the number of changes in the physical environment that elderly institutionalized patients can experience before their morbidity will be influenced.

3. There is an identifiable significant range in the number of changes in the physical environment that elderly institutionalized patients can experience before their satisfaction will be influenced.

Secondary:

4. Patients who are more mentally alert, as measured by the Mental Status Questionnaire, are more likely to survive relocation than those who are shown to be less alert.

5. The more mentally alert patients, as measured by the Mental Status Questionnaire, will relocate more successfully.

6. Patients who exert control (option of choice) over their new environments prior to relocation will be more satisfied with the relocation than those patients who do not.

7. Patients who exert control (option of choice) over their new environments prior to relocation will survive the relocation better than those who do not.

8. Some types of changes that occur in the physical environment during an institutional relocation will contribute more to the elderly patients' mortality than others.

9. Some types of changes that occur in the physical environment during an institutional relocation will contribute more to the elderly patients' morbidity than others.

10. Some types of changes that occur in the physical environment during an institutional relocation will contribute more to the elderly patients' satisfaction than others.

Recommendations for Future Research

Whereas this research answers some questions, it certainly prompts others. Three categories of future research are suggested,

involving the degree of environmental change that is tolerable to the patient, the effects of the physical environment upon the patient, and concerns related to male survival and satisfaction.

Prefacing all suggestions is the recommendation that longitudinal study be the context within which all research in this area is conducted. As an example of the advantages of a longitudinal study, the present study benefitted from the six-month follow-up, the results of which are felt to more accurately reflect the long-term relocation status of the patients, especially the male patients. Although this study does not qualify for longitudinal status at the present time, its limited time span did benefit from the spirit of that concept. Relying solely upon results provided by a preliminary three-month follow-up could have prejudiced the outcome report.

The relocation of any person, particularly an older one, takes time. Thus, the literature addressing time lines for such studies should be amended to include more follow-up study time after the relocation in order to more closely determine the true effects that occur.

Degree of Environmental Change

More work concerning the degree of environmental change that is tolerable to institutionalized patients is needed. Research can be oriented toward physical and/or social conditions of patients and their physical environments, and combinations of these factors that could influence relocated patients either positively or negatively should also be investigated.

It is reasonable to assume that the discovery of

characteristics that are predictive of patients' vulnerability to an unsuccessful relocation should be pursued. The value of this type of study is inherent to mandatory pre-relocation programs[2], whose purpose is to reduce the mortality rate during and following institutional relocation. The identification of predictors that would accurately characterize successful or unsuccessful relocations of patients would be helpful in selecting the type of preparatory program that should be initiated for the various patient types.

Larger study samples are recommended to more accurately verify findings, along with replications of previous research concerning environmental change.

Effect of the Physical Environment

Increased study should be focused upon the "well" patients in medical care facilities since they are often the individuals who are in most need of a truly habitable environment: they are the ones who notice their surroundings most, who potentially can be most hurt by them, and who potentially can benefit most from them. The increased lifespan that can be expected, especially by women, places more importance upon the concept of the "medical care facility as a residence" rather than only an acute or chronic care facility, since, for many people, it is their home.

The continuation in the development of instruments that would evaluate the physical environment is encouraged. Accurate research in

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[2]Senate Bill 3503, 93rd Congress, 2nd Session, amended "Title XIX of the Social Security Act to impose certain requirements relating to the discharge of transfer of medicaid patients from skilled nursing homes or intermediate care facilities, and for other pruposes. July 30, 1974." (Pastalan and Bourestom, 1975, p. 150)

this area will benefit from instrumentation that has proven validity, reliability, and relatedness to the subject at hand. The difficulties encountered in data collection in a study of this type result in part from the lack of appropriate instrumentation, particularly involving measures of satisfaction with the physical environment.

Factors in the physical environment that are associated with satisfaction or dissatisfaction following an institutional move continue to require investigation. Their identification would provide invaluable design detail information to planners of such facilities as the ICMCF.

Male Survival and Satisfaction

The results of this study indicate that much study is needed regarding male satisfaction in medical care facilities. The research methods in the present study did not provide for a comprehensive investigation regarding the social and physical conditions of the male subjects, but the inclusion of such instrumentation is recommended for future study. Expectations of their new surroundings, as well as purposes they would like their new surroundings to fulfill would shed considerable light in this area.

Following these research suggestions should help to expand the body of knowledge relative to institutional relocation in specific and in institutional living for the elderly in general in a meaningful way. As mentioned earlier, the research should be conducted within a longitudinal context for best results.

APPENDICES

APPENDIX A

GENERAL PATIENT

INFORMATION FORM

Check #_____
Date_____
Patient_____: general statement about the patient's personality, as observed by the interviewer on the date noted_____

_____

_____

_____

Demographic Information:

_____1. male/female

_____2. birthdate

_____3. age at time of relocation

_____4. marital status (S,M,W,Sep)

_____5. education - highest grade attended

_____6. date of admittance to ICMCF

_____7. anticipated length of stay

_____8. time spent at ICMCF prior to relocation

Participation in Pre-relocation Program Preparation:

_____1. roommate selection

_____2. room selection

_____3. room color selection

_____4. other - specify

Attitude Toward the Relocation: on a 1 (low) to 5 (high) scale

_____1. How satisfied are you now with your room?

_____2. How do you feel about the move?

_____3. How do you feel about your health?

APPENDIX B

PHYSICAL ENVIRONMENTAL CHECKLIST

PHYSICAL/SOCIAL ENVIRONMENTAL INDEX:

Total number of changes:_____
physical changes:_____
social changes:_____

	before:		after:				
environmental aspect:	measure-ment:	patient attitude:	measure-ment:	patient attitude:	physical change:	incr/ decr:	degree of change:
(scoring)	(actual)	(+,o,-,n)	(actual)	(+,o,-,n)	(yes/no)	(amnt)	
Physical:							
room size							
room floor							
accessability in bath							
orientation							
view							
window size							
window treat-ment							
room color							
floor color							
floor treat-ment							
furniture style							
noice level in room							
TV in room							
radio in room							
storage space							
number of personal objects displayed							
Social:							
condition of roommate							
number of roommate							
social worker							
nurse(s)							
doctor(s)							

Questions: (According to a "1-very satisfied, 2, 3, 4, 5-very dissatisfied" scale.)
Prior to relocation:
How do you feel about your room?_____ Probes: How do you feel about the:
1. size of your room?_____
2. placement of the bathroom?_____
3. view from your window?_____
4. windows in your room?_____
5. color of your room?_____
6. storage in your room?_____

APPENDIX C

MENTAL STATUS QUESTIONNAIRE

MENTAL STATUS QUESTIONNAIRE

Patient:_____

Date:_____Check #_____

Score:_____

1. Let's see. What is the day today?_____
2. (Ask only if not given in answer to "1" above.) What month is it now?_____
3. What year is it now?_____
4. How old are you?_____
5. What month were you born?_____
6. What year were you born?_____
7. What is the name of this place? (Probe: What do you call this place?) (Write out name of hospital.)_____

   _____
8. Where is it located? (Write out city, street, or address given.)

   _____
9. Who is president of the United States?_____
10. Who was president before him?_____

APPENDIX D

ACTIVITIES OF DAILY LIVING SCALE

AND DESCRIPTION OF PATIENTS'

PHYSICAL HEALTH FORM

Evaluation form for Index of ADL

Name_____Day of evaluation_____

For each area of functioning listed below, check description that applies. (The word "assistance" means supervision, direction, or personal assistance.)

Bathing - either sponge bath, tub bath, or shower

☐	☐	☐
Receives no assistance (gets in and out of tub by self if tub is usual means of bathing)	Receives assistance in bathing only one part of the body (such as back or a leg)	Receives assistance in bathing more than one part of the body (or not bathed)

Dressing - gets clothes from closets and drawers - including underclothes, outer garments and using fasteners (including braces if worn)

☐	☐	☐
Gets clothes and gets completely dressed without assistance	Gets clothes and gets dressed without assistance except for assistance in tying shoes	Receives assistance in getting clothes or in getting dressed, or stays partly or completely undressed

Toileting - Going to the "Toilet room" for bowel and urine elimination; cleaning self after elimination, and arranging clothes

☐	☐	☐
Goes to "toilet room," cleans self, and arranges clothes without assistance (may use object for support such as cane, walker, or wheelchair and may manage night bedpan or commode, emptying same in morning)	Receives assistance in going to "toilet room" or in cleansing self or in arranging clothes after elimination or in use of night bedpan or commode	Doesn't go to room termed "toilet" for the elimination process

Transfer -

☐	☐	☐
Moves in and out of bed as well as in and out of chair without assistance (may be using object for support such as cane or walker)	Moves in and out of bed or chair without assistance	Doesn't get out of bed

Continence -

☐	☐	☐
Controls urination and bowel movement completely by self	Has occasional "accidents"	Supervision helps keep urine or bowel control; catheter is used, or is incontinent

Feeding -

☐	☐	☐
Feeds self without assistance	Feeds self except for getting assistance in cutting meat or buttering bread	Receives assistance in feeding or is fed partly or completely by using tubes or intravenous fluids

Description of Patient's Physical Health: Please use the following three descriptions to answer "A" below.

Mild is defined as minor conditions or cases of angina, congestive heart failure, diabetes or hypertension, and transient mild cerebral insufficiency, infections or gastrointestinal symptoms. Minor ECG includes low or isoelectric T waves, mild S-T depression, P-R interval prolongations of less than .23 sec., a QRS width of less than .12 sec., slurring or notching of the QRS complexes, unifical atrial or ventricular extasystoles less than 6 per minute, and regular sinus rhythms over 50 but under 100.

Moderate is defined as ECG T-wave inversion, bundle-branch block, dropped beats, a P-R over .22 sec., S-T depression of 1-2 mm, sinus bradycardia between 40 and 50, sinus tachycardia between 100 and 150, a significant increase in angina, hypertension or congestive heart failure, exacerbation of asthma, diabetes out of control, moderate bleeding from a duodenal ulcer, complex extrasystoles, bigeminal or trigeminal pulse, and post extrasystolic T-wave inversions.

Severe is defined as acute coronary insufficiency of myocardial infarction, a hypertensive crisis with cerebral encephalopathy, diabetic coma, acute gastrointestinal bleeding from an old duodenal ulcer, acute pulmonary edema, tachyarrhythmia, sinus tachycardia over 150, sinus bradycardia under 40, and multiple extrasystoles (more than 10 per minute).

Questions

A. This patient's physical condition would be described as being:
_____1. better than any of the above classifications
_____2. "mild"
_____3. "moderate"
_____4. "severe"
_____5. worse than any of the above classifications

B. If this relocation to the new facility were not taking place, would this patient reasonably be expected to live: (check the longest period expected)
_____1. less than three months
_____2. 3 to 5 months
_____3. 6 to 8 months
_____4. 9 to 11 months
_____5. longer than one year

C. Physical limitations of the patient:

Blindness:	Deafness:
_____1. partial	_____1. partial
_____2. complete	_____2. complete

Other physical limitations:

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